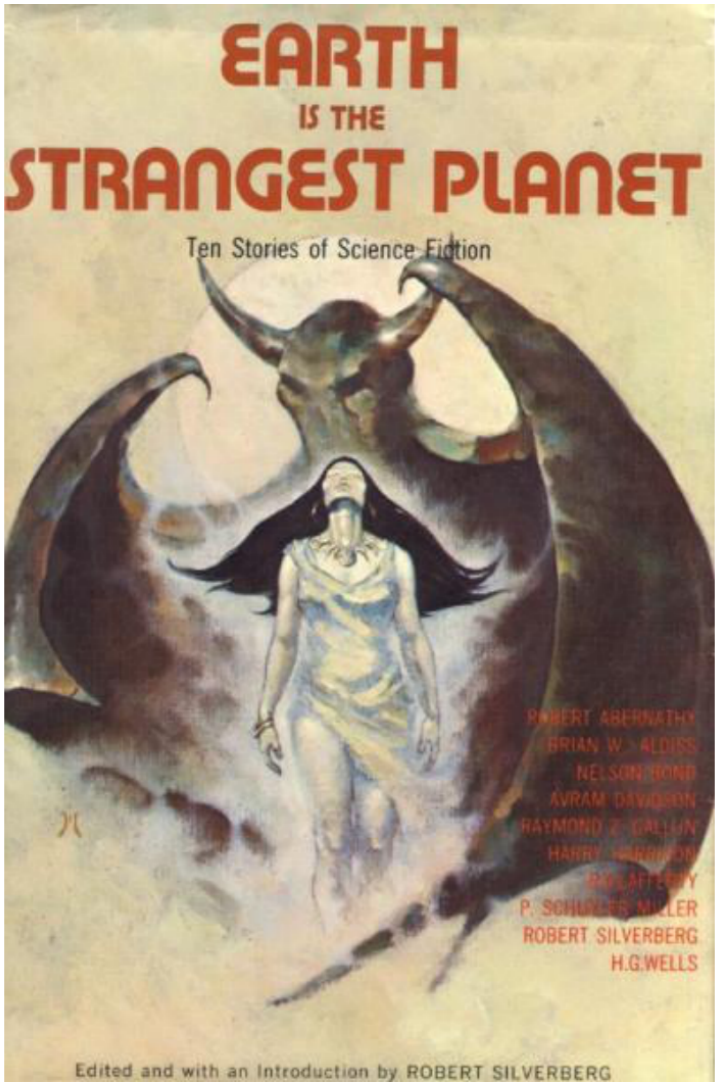
EARTH IS THE STRANGEST PLANET

Ten Stories of Science Fiction



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Earth Is The Strangest Planet

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INTRODUCTION

Robert Silverberg

It is not hard to find wonders in science fiction, but mostly they are found in stories set in remote galaxies or in the vast reaches of the future. The library shelves are crowded with books with titles like EXPLORERS OF SPACE or VOYAGERS IN TIME or WORLDS OF MAYBE—to mention just a few for which I happen to be responsible.

But there are more real wonders in a puddle of muddy water than in a million imaginary galaxies, and the book you now hold in your hands is intended to demonstrate that. Here are ten science-fiction stories, all of them set on Earth in the more-or-less present day—and they are full of such miracles and splendors as will satisfy the most jaded seeker after novelty. We meet the dwellers in the puddle, yes, and those in the depths of the ocean and the bowels of the planet, we are menaced by sinister coat hangers and we step through mysterious folds in the space-time continuum, we see dinosaurs run amok in suburban England and bizarre beings emerge from archaeological digs, and never once do we leave the planet of our birth; never once do we journey into distant eras. The scope of science fiction is so immense that we can serve up all this dazzlement without ever departing very far from the here and now. Or perhaps the credit should go, not to science fiction, but to Earth itself, our inexhaustible, always surprising home world—which may very well be the strangest planet in all the universe, our prosaic little planet, the planet that gave the universe the stegosaurus, the kangaroo, the Venus flytrap, the pelican, the turtle, the lobster, and a billion other miracles, not the least of them the human imagination.

—Robert Silverberg

AND LO! THE BIRD

Nelson Bond

Nelson Bond has had a long and distinguished career as a writer—beginning with the science-fiction magazines of the late 1930's, moving on to such highly regarded all-fiction publications as Argosy *and* Blue Book, *then to television in the days of* Studio One, Philco Playhouse, Playhouse 90, *and the other great dramatic shows of the 1950's. These days he lives down Virginia way, doing little writing but operating a thriving rare-book business. His stories keep coming back into print, though, and little wonder about that, for they are lively, crisply told, and imaginative—as, for example, this chilling fantasy, monumentally improbable and yet somehow not at all implausible. In the long roster of end-of-the-world stories, this one stands out as one of the strangest.*

The Bird of Time has but a little way To fly—and Lo! the Bird is on the wing.

—Edward FitzGerald, *Rubaiyat of Omar Kayyam—*

I don't know why I'm bothering to write this. It's undoubtedly the most useless bit of writing I've ever done in a career devoted to defacing reams of clean copy paper with torrents of fatuous words. But I've got to do something to keep my mind occupied, and since I was in this from the beginning, I might as well set it down as I remember it.

Of course, my record of those first days makes no difference now. But, then, nothing matters much now. Perhaps nothing ever really mattered much, actually. I don't know. I'm not very sure about anything any more. Except that this is an absurdly unimportant story for me to be writing. And that somehow I must do it, nonetheless. . . .

I've said I was in this from the beginning. That's a laugh. How long ago it really started is any man's guess. It depends on how you choose to measure time. Some four thousand years ago, if you're a fundamentalist adherent to Archbishop Ussher's chronology. Perhaps three thousand million years ago, if you have that which until a few short weeks ago we used to speak of vaingloriously as "a

scientific mind."

I don't know the truth of the matter, nor does anyone else, but so far as I'm concerned it started about a month ago. On the night our City Editor, Smitty, wigwagged me to his desk and grunted a query at me.

"Do you know anything about astronomy?" he asked a bit petulantly.

"Sure," I told him. "Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune, and something-or-other."

"How?" frowned Smitty.

"And Pluto," I remembered. "The solar family. The planets in the order of their distance from the sun. I had a semester of star-gazing at school. Some of it rubbed off."

"Good," said the C.E. "You've just won yourself an assignment. Do you know Dr. Abramson?"

"I know who he is. The big wheel on the university observatory staff."

"That's right. Well, go see him. He's got something big —*he* says," appended Smitty.

"Cab?" I asked hopefully.

"Bus."

"Astronomically speaking," I suggested, "a big story could mean a lot of things. A comet striking earth. The heat of the sun failing and letting us all freeze to death."

"Things are tough all over," shrugged Smitty. "The suburban buses run every twenty minutes until midnight."

"On the other hand," I mused, "he may have run into some meteorological disturbance that means atomic experiment. If the Reds are playing around with an H-bomb—"

"Okay, a cab," sighed Smitty. "Get going."

Abramson was a small, slim, sallow man with shadowed eyes. He shook my hand and motioned me into a chair across the yellow oak desk from him, adjusted a gooseneck lamp so it would shine in neither of our faces, then steepled lean white fingers. He said, "It was good of you to come so promptly, Mr.-"

"Flaherty," I told him.

"Well, Flaherty, it's like this. In our profession it isn't customary to release stories through the press. As a rule, we publish our observations in technical journals comprehensible, for the most part, only to specialists. But this time such treatment does not seem

adequate. It might not be fast enough. I've seen something in the heavens—and I don't like it."

I made hen scratches on a fold of copy paper.

"This thing you saw? A new comet, maybe?"

"I'm not sure that I know," said Abramson, "and I'm even less sure I *want* to know. But whatever it is, it's unusual enough and, I suspect, important enough to warrant the step I'm taking. In order to get the swiftest possible confirmation of my observations, and of my fears, I feel I must use the public press to tell my message."

"All the news that's fit to print," I said, "and a lot that isn't; that's our stock in trade. What is it you've seen?"

He stared at me somberly for a long minute. Then:

"A bird," he said.

I glanced at him in swift surprise. "A bird?" I felt like smiling, but the look in his eyes did not encourage mirth.

"A bird," he repeated. "Far in the depths of space. The telescope was directed toward Pluto, farthermost planet of our solar system. A body almost four thousand millions of miles from Earth.

"And at that distance" —he spoke with a painful deliberation— "at that incredible distance, I saw a bird!"

Maybe he read the disbelief in my eyes. Anyway, he opened the top drawer of his desk, drew forth a sheaf of 8-by-10 glossies, and laid them before me.

"Here," he said. "See for yourself."

The first photograph meant little to me. It showed a field of star-emblazoned space—the typical sort of picture you find in any astronomy textbook. But on it one square was outlined in white pencil. The second photo was an enlargement of this square, showing in magnified detail the outlined area. The field was larger, brighter; a myriad of glowing stars diffused a silvery radiance over the entire plate. Against this nebulosity stood out in stark relief the firm, jet silhouette of a gigantic birdlike creature in full flight.

I ventured an uncertain attempt at rationalization. I said, "Interesting. But, Dr. Abramson, many dark spots have been photographed in space. The Coalsack, for instance. And the black nebula in—"

"True," he acknowledged. "But if you will look at the next exposure?"

I turned to the third photograph, and for the first time felt the breath of that thin, cold, helpless dread which in the weeks ahead

was to come to dwell with me. It depicted an overlapping portion of that field surveyed in the second print. But the dark, occulting silhouette had changed. That which was limned against the background of the stars was still the outline of a bird—but the shape had changed. A wing which had been lifted now was dropped; the postures of neck and head and bill were subtly but definitely altered.

"This photograph," said Abramson in a dry, emotionless voice, "was taken five minutes after the first one. Disregarding the changed appearance of the—the image— and considering only the object's relative position in space, as indicated by the parallax, to have shifted its position to such an extent in so short a time indicates that the thing casting that image must have been traveling at a velocity of approximately one hundred thousand miles per minute."

"What!" I exclaimed. "But that's impossible. Nothing on earth can travel at such a speed."

"Nothing on *earth,"* agreed Abramson. "But cosmic bodies can —and do. And for all that it has the semblance of a living creature, this thing—whatever it is—is a cosmic body.

"And that," he continued fretfully, "is why I asked you to come out here. That is the story I want you to write. That is why no moment must be wasted."

I said, "I can write the story, but it will never be believed."

"Perhaps not—at first. Nevertheless, it must be released. The public may laugh if it chooses. Other observatories will check my discovery, verify my conclusions. And that is the important thing. No matter what it may lead to, what it means, we must learn the truth. The world has a right to know the threat confronting it."

"Threat? You think there is a threat?"

He nodded slowly, gravely.

"Yes, Flaherty. I know there is. There is a thing these pictures may not tell you, but that will be recognized instantly by any trained mathematician.

"That thing—bird, beast, machine, or whatever it may be—travels in a computable path. And the direction of its flight is—toward our sun!"

My interview threw Smitty for a loss. He read copy swiftly, scowled, studied the pix, and read the story again, this time more slowly and with furrows congealing on his forehead. Then he

stalked over to my desk.

"Flaherty," he complained in a tone of outraged indignation, "what is all this? What the hell *is* it, I mean?"

"A story," I told him. "The story you sent me out to get. Abramson's story."

"I know that. But—a bird! What the hell kind of a story is that?"

I shrugged. "Frankly, I don't know. Dr. Abramson seemed to think it's important. Maybe," I suggested, "he's got rocs in his head?"

It was too subtle for Smitty. He smudged the bridge of his nose with a copy pencil and muttered something uncomplimentary to astronomers in general and Abramson in particular.

"I suppose we've got to print it," he decided. "But we don't have to make damned fools of ourselves. Lighten this up. If we must run it, we'll play it for laughs."

So that's what we did. We carried it on an inside page, complete with Abramson's pictures, as a special feature, gently humorous in tone. We didn't openly poke fun at Abramson, of course. He was, after all, the observatory chief of staff. But we soft-pedaled the science angle. I rewrote the yarn in the style we generally use for flying saucer reports and sea-serpent stories.

Which was, of course, a terrific boner. But in all fairness to Smitty, how was *he* to know this was the story to end all stories? The biggest story of his or any newspaperman's career?

Think back to the first time *you* read about it, and be honest. Did you guess, then, that it was gospel truth?

We soon discovered our mistake. Reaction to the yarn was swift and startling. The *Banner* had been on the streets less than an hour when the phones began to ring.

That, in itself, was not unusual. Any out-of-the-ordinary story brings its quota of cranks crawling forth from the woodwork. Discount the confirmation of the local amateur observer who called in to verify Abramson's observation. His possibly lucid report was overshadowed by the equally sincere, but considerably less credible, reports of a dozen naked-eye "witnesses" who also averred to have seen a gigantic birdlike creature soaring across the heavens during the night. Half of these described the markings of the bird; one even claimed to have heard its mating call.

Two erstwhile civilian defense aircraft spotters called to

identify the object variously, but with equal assurance, as a B-29 and a Russian superjet. A member of the Audubon Society identified the bird as a ruby-throated nuthatch which, he suggested, must have flown in front of the telescope just as the camera clicked. An itinerant preacher of an obscure cult marched into our office to inform us with savage delight that this was the veritable bird foretold in the Book of Revelations, and that the end of the world could now be expected momentarily, if not sooner.

These were the lunatic fringe. What was unusual was that all the calls which flooded our office during the next twenty-four hours were not made by screwballs and fanatics. Some were of great importance, not only to their instigators but to the scientific world, and to mankind in general.

We had fed a take to the Associated Press. To our astonishment, from that syndicate we received an immediate demand for follow-up material, including copies of Abramson's pix. The national picture magazines were even more on their toes. They flew their own boys to town and had contacted Abramson for a second story before we wised up to the fact that we had broken the number-one sensation of the year.

Meanwhile, and most important of all, astronomers elsewhere throughout the world set their big eyes for the area of the thing first spotted by Dr. Abramson. And within twenty-four hours, to the stunned dismay of all who, like Smitty and myself, had seen it as a terrific joke, verifications were forthcoming from every observatory that enjoyed good viewing conditions. What's more, mathematicians verified Abramson's estimates as to the thing's speed and trajectory. The bird, estimated to be larger in size than any solar planet, was conceded to be somewhere in the vicinity of Pluto—and approaching our sun at a speed of 145,000,000 miles per day!

By the end of the first week, the bird was visible through any fair-sized telescope. The story snowballed, and in its rolling picked up the oddments lying in its path. A character who introduced himself as a member of the Fortean Society—whatever that is—came to the office armed with a thick volume in which he pointed out to us a dozen paragraphs purporting to prove that similar dark objects had been seen in the skies above various parts of the world over a period of several hundred years.

The central council of the P.T.A. issued a plaintive statement

deploring scare-journalism and its evil effects on the youth of our nation. The Daughters of the American Revolution passed a resolution branding the strange image a new secret weapon of the Kremlin's lads, and urging that immediate steps—undefined but drastic—be taken by the authorities. A special committee of the local ministers' association called to advise us that the story we had originated tended to undermine the religious faith of the community; they demanded that we print a full retraction of the hoax in the earliest possible edition.

Which was, by this time, a complete impossibility. Before the end of the second week, the black dot in the skies could be viewed with binoculars. By the middle of the third week it had reached the stage of naked-eye visibility. Crowds gathered in the streets when this became known, and those with good eyesight professed to be able to discern the rhythmic rise and fall of those tremendous wings, now familiar to all because of the scores of photographs which by this time had appeared in every newspaper and magazine of any importance.

The cadenced beating of those monstrous wings was but one of the many inexplicable—or at least unexplained— mysteries about the creature from beyond. Vainly a few diehard physicists pointed out that wings are of no propulsive help in airless void, that alate flight is possible only where there are wind currents to lift and carry. The thing flew. And whether its gigantic pinions beat, as some men thought, on an interstellar atmosphere unguessed by Earthly science, or whether they stroked against beams of light or quantum bundles, as others contended, these were meaningless quibbles in the face of that one, stark, incontrovertible fact: the thing flew.

With the dawning of the fourth week, the bird from outer space reached Jupiter and dwarfed it—an ominous black interloper equal in size to any cosmic neighbor man had ever seen.

I sat alone with Abramson in his office. Abramson was tired and, I think, a little ill. His smile was not a success, nor had his words their hoped-for jauntiness.

"Well, I got what I wanted, Flaherty," he admitted. "I wanted swift action, and got it. Though what good it is, I don't know. The world recognizes its danger now, and is helpless to do anything about it."

"It has hurdled the asteroids," I said. "Now it's approaching

Mars, and is still moving sunward. Everyone is asking, though, why doesn't its presence within the system raise merry hob with celestial mechanics? By all known laws it should have thrown everything out of balance. A creature of that size, with its gravitational attraction —

"You're still thinking in old terms, my boy. Now we are confronted with something strange and new. Who knows what laws may govern the Bird of Time?"

"The Bird of Time? I seem to have heard that phrase."

"Of course." He quoted moodily. " The Bird of Time has but a little way to fly—and Lo! the Bird is on the Wing.' "

"The *Rubaiyat,"* I remembered.

"Yes. Omar was an astronomer, you know, as well as a poet. He must have known—or guessed—something of this." Abramson gestured wanly skyward. "Indeed, many of the ancients seem to have known something about it. I've been doing a lot of research during these past weeks, Flaherty. It is amazing how many references there are in the old writings to a great bird of space—statements which until recently did not seem to be at all significant or important, but which now hold a greater and graver meaning for us."

"Such as?"

"Culture myths," he said. "Legends. The records of a hundred vanished races. The Mayan myth of the space-swallow, the Toltec quetzlcoatl, the Russian firebird, the phoenix of the Greeks."

"We don't know yet," I argued, "that it *is* a bird."

He shrugged.

"A bird, a giant mammal, a pterodactyl, some similar creature on a cosmic scale—what does it matter? Perhaps it is a life-form foreign to anything we know, something we can only try to name in earthly terms, describe by earthly analogies. The ancients called it a bird. The Phoenicians worshiped the 'bird that was, and is again to be.' The Persians wrote of the fabulous roc. There is an Aramaic legend of the giant bird that rules—and spawns—the worlds."

"Spawns the worlds?"

"Why else should it be coming?" he inquired. "Does its great size mean nothing to you?" He stared at me thoughtfully for a moment. Then: "Flaherty," he asked strangely, "what is the earth?"

"Why," I replied, "the world we live on. A planet."

"Yes. But what is a planet?"

“A unit of the solar system. A part of the sun’s family.”

“Do you *know* that? Or are you simply parroting things you were taught in school?”

“The latter, of course. But what else could it be?”

“Our earth could be,” he answered reluctantly, “no part of the sun’s family at all. Many theories have been devised, Flaherty, to explain earth’s place in this tiny segment of the universe we call the solar system. None of them are prov-ably inaccurate. But on the other hand, none are demonstrably true.

“There is the nebular hypothesis: the theory that earth and its sister planets were born of a contracting sun. Were, in fact, small globules of solar matter left to cool in orbits deserted by their condensing parent. A late refinement of this theory makes us the product of materials derived from a sister sun, once twin to our own orb.

“The planetesimal and tidal theories each are based on the assumption that unfathomable eons ago another sun bypassed our own, and that the planets are the offspring of that ancient, flaming rendezvous in space.

“Each of these theories has its proponents and its opponents; each has its verifications and denials. None can be wholly proved or refuted.

“But” —he stirred restlessly—“there is another possibility which, to the best of my knowledge, has never been expounded. Yet it is equally valid to any I have mentioned. And in the light of that which we now know, it seems to me more likely than any other.

“It is that earth and its sister planets have nothing whatever to do with the sun. That they are not, nor ever were, mere members of its family. That the sun in our skies is simply a convenience.

“Convenience?” I frowned. “Convenience for what?”

“For the bird,” said Abramson unhappily. “For the great bird which is our parent. Flaherty, can you conceive that our sun may be a cosmic incubator? And that the world on which we live may be merely—an egg?”

I stared at him. “An egg! Fantastic!”

“You think so? You can look at the pictures, read the stories in the magazines, see the approaching bird with your own eyes, and still think there exists anything more incredible than that which has befallen us?”

“But an egg! Eggs are egg-shaped. Ovoid.”

“The eggs of some birds are ovoid. But those of the plover are pear-shaped, those of the sand-grouse cylindrical, those of the grebe biconical. There are eggs shaped like spindles and spears. The eggs of owls, and of mammals, are generally spheroid. As in the earth.”

“But eggs have shells!”

“As does our earth. Earth’s crust is but forty miles thick —a layer for a body of its size comparable in every respect to the shell of an egg. Moreover, it is a smooth shell. Earth’s greatest height is Mount Everest, some thirty thousand feet; its greatest depth is Swire Deep in the Pacific, thirty-five thousand. A maximum variation of about twelve miles. To feel these irregularities on a twelve-inch model of the earth you would need the delicate fingers of the blind, because the greatest height protrudes but the hundred and twentieth part of an inch, and the lowest depth is but one hundredth part of an inch below its surface.”

“Still,” I argued desperately, “you can’t be right. You’ve overlooked the most important fact. Eggs hold life! Eggs contain the fledglings of the creature that spawned them. Eggs crack open and __”

I stopped abruptly. Abramson nodded, creaking back and forth in his ancient swivel chair, the creaking a monotonous rhythm to his nodding. There was sadness in his eyes and in his voice.

“Even so,” he said wearily. “Even so . . {

So that was the second great story which I broke. I was still fool enough to get a bang out of it at the time; I don’t feel the same way about it now. But, then, I don’t feel the same about anything any more. I guess you can understand that. The coming of the bird was such a big thing, such a truly big thing, that it dwindled into insignificance all the things we used to consider great, important, worldshaking.

World-shaking!

I’ll make it brief. There’s so little purpose to my telling of this story. But there may be in it, here and there, a fact you do not know. And I’ve got to do something—anything —to keep myself from thinking.

You remember that grim fourth week, and the steady approach of the bird. We had settled for calling it that by then. We were not sure if it was bird or winged beast, but men think—and give names to things—in terms of familiar objects. And that slim black shape with its tremendous wings, its taloned legs and long, cruel, curving

beak, looked more like a bird than an animal.

Besides, there was Abramson's world-egg theory to be considered. The people, hearing this, doubted it with a furious hope —but feared it might be true. Men in high positions asked what could be done. They sent for Abramson, and he advised them. He could be wrong, he acknowledged. But if he was right, there was only one hope for salvation. The life within Earth must be stilled.

"I believe," he told a special emergency committee appointed by the President, "the bird has come to hatch the brood of young it deposited God knows how many centuries ago about that incubating warmth which is our sun. Its wisdom or its instinct tells it that the time of emergence is now; it has come to help its fledglings shed their shells.

"But we know that mother birds, alone and unaided, do not hatch their young. They will aid a struggling chick to crack its shell, but they will never begin the liberating action. With an uncanny second sense, they seem to know which eggs have failed to develop life within them. Such eggs they never disturb.

"Therein, gentlemen, lies our only hope. The shell of Earth is forty miles in thickness. We have our engineers and technicians; we have the atomic bomb. If mankind is to live, the host to which we are but parasites must die. That is my only conclusion. I leave the rest to you."

He left them, still wrangling, in Washington, and returned home. He saw little hope, he told me the next day, of their reaching any firm decision in sufficient time to act. Abramson, I think, had already resigned himself to the inevitable, had with a wan grimace surrendered mankind to its fate. He said once that bureaucracy had achieved its ultimate destiny. It had throttled itself to death with its own red tape.

And still the bird moved sunward. On the twenty-eighth day it made its nearest approach to Earth, and passed us by. I don't know —nor can the scientists explain—why our globe was not shattered by the gravitational attraction of that gigantic mass. Perhaps because the Newtonian theory is, after all, simply a theory, and has no actuality in fact. I don't know. If there were time it would be good to resurvey the facts and learn the truth about such things. At any rate, all things considered, we suffered very little from its nearness. There were high tides and mighty winds; those sections of earth subject to earthquakes suffered some mild tremors. But that is

all.

Then we won a respite. You remember how the bird paused in its headlong flight to hover for two full days about that tiniest of the solar planets—the one we call Mercury. Briefly, as if searching for something, it flew in a wide circle in an orbit between Mercury and the sun.

Abramson believed it *was* looking for something. For something it could not find because it was no longer there. Astronomers believed, said Abramson, that at one time there had been another planet circling between Mercury and the sun. Some watchers of the sky had seen this as late as the eighteenth century, and had called it Vulcan. Vulcan had disappeared; perhaps had fallen into the sun. So thought Abramson. And so, apparently, the bird decided, too, for after a fruitless search it winged its way outward from the sun to approach the closest of its brood still remaining intact.

Must I remind you of that dreadful day? I think not. No man alive will ever forget what he saw then. The bird approaching Mercury, pausing to hover motionless above a planet which seemed a mote beneath the umbra of those massive wings. Men in the streets saw this. I saw more, for I stood beside Abramson in the university observatory, watching that scene with the aid of a telescope.

I saw the first thin splitting of Mercury's shell, and the curious fluid ichor which seeped from a dying world. I watched the grisly emergence of that small, wet, scrawny thing—raw simulacrum of its monstrous parent—from the egg in which it had lain for whatever incalculable era was the gestation period of a creature vast as space and old as time. I saw the mother bird stretch forth its giant beak and help its fledgling rid itself of a peeling, needless shell; stood horrified to watch the younger bird emerge and flap its new, uncertain wings, drying them in the burning rays of the star which had been its incubator.

And I saw the shredded remnants of a world spiral into the sun which was its pyre.

It was then, at last, that mankind woke to action. The doubters were finally convinced, those who had argued against the "needless expense" and folly of Abramson's plan were silenced. Forgotten now were selfishness and greed, political differences and departmental strife. The world it infested trembled on the brink of doom—and a race of vermin battled for its life.

In the flat desertland of America was frantically thrown together the mechanism for mankind's greatest project— Operation Life. To this desert flew the miners, the construction engineers, the nuclear physicists, the men skilled in deep-drilling operations. There they began their task, working night and day with a speed which heretofore had been called impossible. There they are working now, this minute, as I write, fighting desperately against each passing second of time, striving with every means and method they know to reach and destroy, before the bird comes, the life within our world.

A week ago the bird moved on to Venus. Throughout these seven days we have watched its progress there. We cannot see much through the eternal veil of mist which surrounds our sister planet, so we do not know what has for so gratefully long a time occupied the bird. Whatever it is, we are thankful for it. We wait and watch. And as we watch, we work. And as we work, we pray. . . .

So there is no real ending to this story. As I said before, I don't know why I'm bothering to write it. The answer is not ready to be given. If we succeed, there will be ample time to tell the tale properly—the whole great story, fully documented, of the battle being waged on the hot Arizona sands. And if we fail—well, then there will be no reason for this writing. There will be none to read it.

The bird is not the greatest of our fears. If when it comes from Venus it finds here a quiet, lifeless, unresponsive shell, it will move outward—we believe and pray—to Mars, then Jupiter, and thence beyond.

That is the end we hope to bring about. Soon, now, our probing needles will penetrate Earth's shell, will dip beneath the crust and into the tegument of that horror which sleeps within us.

But we have another more tormenting fear. It is that before the mother bird approaches us the fledgling may awake and seek to gain its freedom from the shell encasing it. If this should happen, Abramson has warned, our work must then proceed at lighting speed. For let that fledgling once begin to knock, then it must die—or all mankind is doomed.

That is the other reason why I write. To keep from thinking thoughts I dare not think. Because:

Because early this morning, Earth began to knock.

NARROW VALLEY

R. A. Lafferty

This man Lafferty, who lives in Tulsa, surely must have the most fertile, original, and altogether bizarre mind in all the northeast Oklahoma, at the very least. Who but Lafferty could fit 160 acres of good farmland into a five-foot gully? Who but Lafferty could dream up so ingenious a story to go with that extraordinary situation? Why, no one could ... no one but Lafferty, and, luckily for us, Lafferty did.

In the year 1893, land allotments in severalty were made to the remaining eight hundred and twenty-one Pawnee Indians. Each would receive one hundred and sixty acres of land and no more, and thereafter the Pawnees would be expected to pay taxes on their land, the same as the White Eyes did.

"Kitkehahke!" Clarence Big-Saddle cussed. "You can't kick a dog around proper on a hundred and sixty acres. And I sure am not hear before about this pay taxes on land." Clarence Big-Saddle selected a nice green valley for his allotment. It was one of the half dozen plots he had always regarded as his own. He sodded around the summer lodge that he had there and made it an all-season home. But he sure didn't intend to pay taxes on it.

So he burned leaves and bark and made a speech:

"That my valley be always wide and flourish and green and such stuff as that!" he orated in Pawnee chant style. "But that it be narrow if an intruder come."

He didn't have any balsam bark to burn. He threw on a little cedar bark instead. He didn't have any elder leaves.

He used a handful of jack-oak leaves. And he forgot the word. How you going to work it if you forget the word?

"Petahauerat!" he howled out with the confidence he hoped would fool the fates.

"That's the same long of a word," he said in a low aside to himself. But he was doubtful. "What am I, a White Man, a burr-tailed jack, a new kind of nut to think it will work?" he asked. "I have to laugh at me. Oh, well, we see."

He threw the rest of the bark and the leaves on the fire, and he

hollered the wrong word out again.

And he was answered by a dazzling sheet of summer lightning.

“Skidi!” Clarence Big-Saddle swore. “It worked. I didn’t think it would.”

Clarence Big-Saddle lived on his land for many years, and he paid no taxes. Intruders were unable to come down to his place. The land was sold for taxes three times, but nobody ever came down to claim it. Finally, it was carried as open land on the books. Homesteaders filed on it several times, but none of them fulfilled the qualification of living on the land. '

Half a century went by. Clarence Big-Saddle called his " son.

“I’ve had it, boy,” he said. “I think I’ll just go in the house and die.”

“Okay, Dad,” the son Clarence Little-Saddle said. “I’m going in to town to shoot a few games of pool with the boys. I’ll bury you when I get back this evening.”

So the son Clarence Little-Saddle inherited. He also lived on the land for many years without paying taxes.

There was a disturbance in the courthouse one day. The place seemed to be invaded in force, but actually there were but one man, one woman, and five children. “I’m Robert Rampart,” said the man, “and we want the Land Office.”

“I’m Robert Rampart Junior,” said a nine-year-old gangler, “and we want it pretty blamed quick.”

“I don’t think we have anything like that,” the girl at the desk said. “Isn’t that something they had a long time ago?”

“Ignorance is no excuse for inefficiency, my dear,” said Mary Mabel Rampart, an eight-year-old who could easily pass for eight and a half. “After I make my report, I wonder who will be sitting at your desk tomorrow.”

“You people are either in the wrong state or the wrong century,” the girl said.

“The Homestead Act still obtains,” Robert Rampart insisted. “There is one tract of land carried as open in this country. I want to file on it.

Cecilia Rampart answered the knowing wink of a beefy man at the distant desk. “Hi,” she breathed as she slinked over. “I’m Cecilia Rampart, but my stage name is Cecilia San Juan. Do you think that seven is too young to play ingenue roles?”

“Not for you,” the man said. “Tell your folks to come over

here."

"Do you know where the Land Office is?" Cecilia asked.

"Sure. It's the fourth left-hand drawer of my desk. The smallest office we got in the whole courthouse. We don't use it much any more."

The Ramparts gathered around. The beefy man started to make out the papers.

"This is the land description," Robert Rampart began. "Why, you've got it down already. How did you know?"

"I've been around here a long time," the man answered.

They did the paper work, and Robert Rampart filed on the land.

"You won't be able to go onto the land itself, though," the man said.

"Why won't I?" Rampart demanded. "Isn't the land description accurate?"

"Oh, I suppose so. But nobody's ever been able to get to the land. It's become a sort of joke."

"Well, I intend to get to the bottom of that joke," Rampart insisted. "I will occupy the land, or I will find out why not."

"I'm not sure about that," the beefy man said. "The last man to file on the land, about a dozen years ago, wasn't able to occupy the land. And he wasn't able to say why he couldn't. It's kind of interesting, the look on their faces after they try it for a day or two, and then give it up." The Ramparts left the courthouse, loaded into their camper, and drove out to find their land. They stopped at the house of a cattle and wheat farmer named Charley Dublin. Dublin met them with a grin which indicated he had been tipped off.

"Come along if you want to, folks," Dublin said. "The easiest way is on foot across my short pasture here. Your land's directly west of mine."

They walked the short distance to the border.

"My name is Tom Rampart, Mr. Dublin." Six-year-old Tom made conversation as they walked. "But my name is really Ramires, and not Tom. I am the issue of an indiscretion of my mother in Mexico several years ago."

"The boy is a kidder, Mr. Dublin," said the mother Nina Rampart, defending herself. "I have never been in Mexico, but sometimes I have the urge to disappear there forever."

"Ah, yes, Mrs. Rampart. And what is the name of the youngest

boy here?" Charley Dublin asked.

"Fatty," said Fatty Rampart.

"But surely that is not your given name?"

"Audifax," said five-year-old Fatty.

"Ah, well, Audifax, Fatty, are you a kidder too?"

"He's getting better at it, Mr. Dublin," Mary Mabel said. "He was a twin till last week. His twin was named Skinny.

Mama left Skinny unguarded while she was out tippling, and there were wild dogs in the neighborhood. When Mama got back, do you know what was left of Skinny? Two neck bones and an ankle bone. That was all."

"Poor Skinny," Dublin said. "Well, Rampart, this is the fence and the end of my land. Yours is just beyond."

"Is that ditch on my land?" Rampart asked.

"That ditch *is* your land."

"I'll have it filled in. It's a dangerous deep cut even if it is narrow. And the other fence looks like a good one, and I sure have a pretty plot of land beyond it."

"No, Rampart, the land beyond the second fence belongs to Holister Hyde," Charley Dublin said. "That second fence is the *end* of your land."

"Now, just wait a minute, Dublin! There's something wrong here. My land is one hundred and sixty acres, which would be a half mile on a side. Where's my half-mile width?"

"Between the two fences."

"That's not eight feet."

"Doesn't look like it, does it, Rampart? Tell you what— there's plenty of throwing-sized rocks around. Try to throw one across it."

"I'm not interested in any such boys' games," Rampart exploded. "I want my land."

But the Rampart children *were* interested in such games. They got with it with those throwing rocks. They winged them out over the little gully. The stones acted funny. They hung in the air, as it were, and diminished in size. And they were small as pebbles when they dropped down, down into the gully. None of them could throw a stone across that ditch, and they were throwing kids.

"You and your neighbor have conspired to fence open land for your own use," Rampart charged.

"No such thing, Rampart," Dublin said cheerfully. "My land checks perfectly. So does Hyde's. So does yours, if we knew how to

check it. It's like one of those trick topological drawings. It really is half a mile from here to there, but the eye gets lost somewhere. It's your land. Crawl through the fence and figure it out."

Rampart crawled through the fence, and drew himself up to jump the gully. Then he hesitated. He got a glimpse of just how deep that gully was. Still, it wasn't five feet across.

There was a heavy fence post on the ground, designed for use as a corner post. Rampart up-ended it with some effort. Then he shoved it to fall and bridge the gully. But it fell short, and it shouldn't have. An eight-foot post should bridge a five-foot gully.

The post fell into the gully, and rolled and rolled and rolled. It spun as though it were rolling outward, but it made no progress except vertically. The post came to rest on a ledge of the gully, so close that Rampart could almost reach out and touch it, but it now appeared no bigger than a match stick.

"There is something wrong with that fence post, or with the world, or with my eyes," Robert Rampart said. "I wish I felt dizzy so I could blame it on that."

"There's a little game that I sometimes play with my neighbor Hyde when we're both out," Dublin said. "I've a heavy rifle and I train it on the middle of his forehead as he stands on the other side of the ditch apparently eight feet away. I fire it off then (I'm a good shot), and I hear it whine across. It'd kill him dead if things were as they seem. But Hyde's in no danger. The shot always banks into that little scuff of rocks and boulders about thirty feet below him. I can see it kick up the rock dust there, and the sound of it rattling into those little boulders comes back to me in about two and a half seconds.

A bull-bat (poor people call it the night-hawk) raveled around in the air and zoomed out over the narrow ditch, but it did not reach the other side. The bird dropped below ground level and could be seen against the background of the other side of the ditch. It grew smaller and hazier as though at a distance of three or four hundred yards. The white bars on its wings could no longer be discerned, then the bird itself could hardly be discerned; but it was far short of the other side of the five-foot ditch.

A man identified by Charley Dublin as the neighbor Hollister Hyde had appeared on the other side of the little ditch. Hyde grinned and waved. He shouted something, but could not be heard.

"Hyde and I both read mouths," Dublin said, "so we can talk

across the ditch easy enough. Which kid wants to play chicken? Hyde will barrel a good-sized rock right at your head, and if you duck or flinch you're chicken."

"Me! Me!" Audifax Rampart challenged. And Hyde, a big man with big hands, did barrel a fearsome jagged rock right at the head of the boy. It would have killed him if things had been as they appeared. But the rock diminished to nothing and disappeared into the ditch. Here was a phenomenon: things seemed real-size on either side of the ditch, but they diminished coming out over the ditch either way.

"Everybody game for it?" Robert Rampart Junior asked.

"We won't get down there by standing here," Mary Mabel said.

"Nothing wenchered, nothing gained," said Cecilia. "I got that from an ad for a sex comedy."

Then the five Rampart kids ran down into the gully. Ran *down* is right. It was almost as if they ran down the vertical face of a cliff. They couldn't do that. The gully was no wider than the stride of the biggest kids. But the gully diminished those children, it ate them alive. They were dollsized. They were acorn-sized. They were running for minute after minute across a ditch that was only five feet across.

They were going deeper in it, and getting smaller. Robert Rampart was roaring his alarm, and his wife Nina was screaming. Then she stopped. "What am I carrying on so loud about?" she asked herself. "It looks like fun. I'll do it too."

She plunged into the gully, diminished in size as the children had done, and ran at a pace to carry her a hundred yards away across a gully only five feet wide.

That Robert Rampart stirred things up for a while then. He got the sheriff there, and the highway patrolmen. A ditch had stolen his wife and five children, he said, and maybe had killed them. And if anybody laughs, there may be another killing. He got the colonel of the State National Guard there, and a command post set up. He got a couple of airplane pilots. Robert Rampart had one quality: when he hollered, people came.

He got the newsmen out from T-Town, and the eminent scientists, Dr. Velikof Vonk, Arpad Arkabaranan, and Willy McGilly. That bunch turns up every time you get on a good one. They just happen to be in that part of the country where something interesting is going on.

They attacked the thing from all four sides and the top, and by inner and outer theory. If a thing measures half a mile on each side, and the sides are straight, there just has to be something in the middle of it. They took pictures from the air, and they turned out perfect. They proved that Robert Rampart had the prettiest hundred and sixty acres in the country, the larger part of it being a lush green valley, and all of it being half a mile on a side, and situated just where it should be. They took ground-level photos then, and it showed a beautiful half-mile stretch of land between the boundaries of Charley Dublin and Hollister Hyde. But a man isn't a camera. None of them could see that beautiful spread with the eyes in their heads. Where was it?

Down in the valley itself everything was normal. It really was half a mile wide and no more than eighty feet deep with a very gentle slope. It was warm and sweet, and beautiful with grass and grain.

Nina and the kids loved it, and they rushed to see what squatter had built that little house on their land. A house, or a shack. It had never known paint, but paint would have spoiled it. It was built of split timbers dressed near smooth with ax and draw knife, chinked with white clay, and sodded up to about half its height. And there was an interloper standing by the little lodge.

"Here, here what are you doing on our land?" Robert Rampart Junior demanded of the man. "Now you just shamble off again wherever you came from. I'll bet you're a thief too, and those cattle are stolen."

"Only the black-and-white calf," Clarence Little-Saddle said. "I couldn't resist him, but the rest are mine. I guess I'll just stay around and see that you folks get settled all right."

"Is there any wild Indians around here?" Fatty Rampart asked.

"No, not really. I go on a bender about every three months and get a little bit wild, and there's a couple Osage boys from Gray Horse that get noisy sometimes, but that's about all," Clarence Little-Saddle said.

"You certainly don't intend to palm yourself off on us as an Indian," Mary Mabel challenged. "You'll find us a little too knowledgeable for that."

"Little girl, you might as well tell this cow there's no room for her to be a cow since you're so knowledgeable. She thinks she's a short-horn cow named Sweet Virginia. I think I'm a Pawnee Indian

named Clarence. Break it to us real gentle if we're not."

"If you're an Indian where's your war bonnet? There's not a feather on you anywhere."

"How you be sure? There's a story that we got feathers instead of hair— Aw, I can't tell a joke like that to a little girl! How come you're not wearing the Iron Crown of Lombardy if you're a white girl? How you expect me to believe you're a little white girl and your folks came from Europe a couple hundred years ago if you don't wear it? There are six hundred tribes, and only one of them, the Oglala Sioux, had the war bonnet, and only the big leaders, never more than two or three of them alive at one time, wore it."

"Your analogy is a little strained," Mary Mabel said. "Those Indians we saw in Florida and the ones at Atlantic City had war bonnets, and they couldn't very well have been the kind of Sioux you said. And just last night on the TV in the motel, those Massachusetts Indians put a war bonnet on the President and called him the Great White Father. You mean to tell me that they were all phonies? Hey, who's laughing at who here?"

"If you're an Indian where's your bow and arrow?" Tom Rampart interrupted. "I bet you can't even shoot one."

"You're sure right there," Clarence admitted. "I never shot one of those things but once in my life. They used to have an archery range in Boulder Park over in T-Town, and you could rent the things and shoot at targets tied to hay bales. Hey, I barked my whole forearm and nearly broke my thumb when the bow-string thwacked home. I couldn't shoot that thing at all. I don't see how anybody ever could shoot one of them."

"Okay, kids," Nina Rampart called to her brood. "Let's start pitching this junk out of the shack so we can move in. Is there any way we can drive our camper down here, Clarence?"

"Sure, there's a pretty good dirt road, and it's a lot wider than it looks from the top. I got a bunch of green bills in an old night charley in the shack. Let me get them, and then I'll clear out for a while. The shack hasn't been cleaned out for seven years, since the last time this happened. I'll show you the road to the top, and you can bring your car down it."

"Hey, you old Indian, you lied!" Cecilia Rampart shrilled from the doorway of the shack. "You *do* have a war bonnet. Can I have it?"

"I didn't mean to lie, I forgot about that thing," Clarence Little-

Saddle said. “My son Clarence Bare-Back sent that to me from Japan for a joke a long time ago. Sure, you can have it.”

All the children were assigned tasks carrying the junk out of the shack and setting fire to it. Nina Rampart and Clarence Little-Saddle ambled up to the rim of the valley by the vehicle road that was wider than it looked from the top.

“Nina, you’re back! I thought you were gone forever,” Robert Rampart jittered at seeing her again. “What— where are the children?”

“Why, I left them down in the valley, Robert. That is, ah, down in that little ditch right there. Now you’ve got me worried again. I’m going to drive the camper down there and unload it. You’d better go on down and lend a hand too, Robert, and quit talking to all these funny-looking men here.”

And Nina went back to Dublin’s place for the camper.

“It would be easier for a camel to go through the eye of a needle than for that intrepid woman to drive a car down into that narrow ditch,“ the eminent scientist Dr. Velikof Vonk said.

“You know how that camel does it?” Clarence Little-Saddle offered, appearing of a sudden from nowhere. “He just closes one of his own eyes and flops back his ears and plunges right through. A camel is mighty narrow when he closes one eye and flops back his ears. Besides, they use a big-eyed needle in the act.”

“Where’d this crazy man come from?” Robert Rampart demanded, jumping three feet in the air. “Things are coming out of the ground now. I want my land! I want my children! I want my wife! Whoops, here she comes driving it. Nina, you can’t drive a loaded camper into a little ditch like that! You’ll be killed or collapsed!”

Nina Rampart drove the loaded camper into the little ditch at a pretty good rate of speed. The best of belief is that she just closed one eye and plunged right through. The car diminished and dropped, and it was smaller than a toy car. But it raised a pretty good cloud of dust as it bumped for several hundred yards across a ditch that was only five feet wide.

“Rampart, it’s akin to the phenomenon known as looming, only in reverse,” the eminent scientist Arpad Arka-baranan explained as he attempted to throw a rock across the narrow ditch. The rock rose very high in the air, seemed to hang at its apex while it diminished to the size of a grain of sand, and then fell into the ditch not six

inches of the way across. There isn't anybody going to throw across a half-mile valley even if it looks five feet. "Look at a rising moon sometimes, Rampart. It appears very large, as though covering a great sector of the horizon, but it only covers one-half of a degree. It is hard to believe that you could set seven hundred and twenty of such large moons side by side around the horizon, or that it would take one hundred and eighty of the big things to reach from the horizon to a point overhead. It is also hard to believe that your valley is five hundred times as wide as it appears, but it has been surveyed, and it is."

"I want my land. I want my children. I want my wife," Robert chanted dully. "Damn, I let her get away again."

"I tell you, Rampy," Clarence Little-Saddle squared on him, "a man that lets his wife get away twice doesn't deserve to keep her. I give you till nightfall; then you forfeit.

I've taken a liking to the brood. One of us is going to be down there tonight."

After a while a bunch of them were off in that little tavern on the road between Cleveland and Osage. It was only half a mile away. If the valley had run in the other direction, it would have been only six feet away.

"It is a psychic nexus in the form of an elongated dome," said the eminent scientist Dr. Velikof Vonk. "It is maintained subconsciously by the concatenation of at least two minds, the stronger of them belonging to a man dead for many years. It has apparently existed for a little less than a hundred years, and in another hundred years it will be considerably weakened. We know from our checking out folk tales of Europe as well as Cambodia that these en-sorceled areas seldom survive for more than two hundred and fifty years. The person who first set such a thing in being will usually lose interest in it, and in all worldly things, within a hundred years of his own death. This is a simple thanato-psychic limitation. As a short-term device, the thing has been used several times as a military tactic.

"This psychic nexus, as long as it maintains itself, causes group illusion, but it is really a simple thing. It doesn't fool birds or rabbits or cattle or cameras, only humans. There is nothing meteorological about it. It is strictly psychological. I'm glad I was able to give a scientific explanation to it or it would have worried me."

“It is the continental fault coinciding with a noospheric fault,” said the eminent scientist Arpad Arkabaranan. “The valley really is half a mile wide, and at the same time it really is only five feet wide. If we measured correctly, we would get these dual measurements. Of course it is meteorological. It is the animals and cameras which are fooled, as lacking a true dimension; it is only humans who see the true duality. The phenomenon should be common along the whole continental fault where the earth gains or loses half a mile that has to go somewhere. Likely it extends through the whole sweep of the Cross Timbers. Many of those trees appear twice, and many do not appear at all. A man in the proper state of mind could farm that land or raise cattle on it, but it doesn’t really exist. There is a clear parallel in the Luftspiegelungthal sector of the Black Forest of Germany which exists, or does not exist, according to the circumstances and to the attitude of the beholder. Then we have the case of Mad Mountain in Morgan County, Tennessee, which isn’t there all the time, and also the Little Lobo Mirage south of Presidio, Texas, from which twenty thousand barrels of water were pumped in one two-and-a-half-year period before the mirage reverted to mirage status. I’m glad I was able to give a scientific explanation to this or it would have worried me.”

“I just don’t understand how he worked it,” said the eminent scientist Willy McGilly. “Cedar bark, jack-oak leaves, and the word ‘Petahauerat.’ The thing’s impossible! When I was a boy and we wanted to make a hideout, we used bark from the skunk-spruce tree, the leaves of a box-elder, and the word was ‘Boadicea.’ All three elements are wrong here. I cannot find a scientific explanation for it, and it does worry me.”

They went back to Narrow Valley. Robert Rampart was still chanting dully: “I want my land. I want my children. I want my wife.”

Nina Rampart came chugging up out of the narrow ditch in the camper and emerged through that little gate a few yards down the fence row.

“Supper’s ready and we’re tired of waiting for you, Robert,” she said. “A fine homesteader you are! Afraid to come onto your own land! Come along now; I’m tired of waiting for you.”

“I want my land! I want my children! I want my wife!” Robert Rampart still chanted. “Oh, there you are, Nina.

You stay here this time. I want my land! I want my children! I

want an answer to this terrible thing."

"It is time we decided who wears the pants in this family." Nina said stoutly. She picked up her husband, slung him over her shoulder, carried him to the camper and dumped him in, slammed (as it seemed) a dozen doors at once, and drove furiously down into the Narrow Valley, which already seemed wider.

Why, that place was getting normaler and normaler by the minute! Pretty soon it looked almost as wide as it was supposed to be. The psychic nexus in the form of an elongated dome had collapsed. The continental fault that coincided with the noospheric fault had faced facts and decided to conform. The Ramparts were in effective possession of their homestead, and Narrow Valley was as normal as any place anywhere.

"I have lost my land," Clarence Little-Saddle moaned. "It was the land of my father Clarence Big-Saddle, and I meant it to be the land of my son Clarence Bare-Back. It looked so narrow that people did not notice how wide it was, and people did not try to enter it. Now I have lost it." Clarence Little-Saddle and the eminent scientist Willy McGilly were standing on the edge of Narrow Valley, which now appeared its true half-mile extent. The moon was just rising, so big that it filled a third of the sky. Who would have imagined that it would take a hundred and eighty of such monstrous things to reach from the horizon to a point overhead, and yet you could sight it with sighters and figure it so.

"I had a little bear-cat by the tail and I let go," Clarence groaned. "I had a fine valley for free, and I have lost it. I am like that hard-luck guy in the funny-paper or Job in the Bible. Destitution is my lot."

Willy McGilly looked around furtively. They were alone on the edge of the half-mile-wide valley.

"Let's give it a booster shot," Willy McGilly said.

Hey, those two got with it! They started a snapping fire and began to throw the stuff onto it. Bark from the dog-elm tree—how do you know it won't work?

It *was* working! Already the other side of the valley seemed a hundred yards closer, and there were alarmed noises coming up from the people in the valley.

Leaves from a black locust tree—and the valley narrowed even more! There was, moreover, terrified screaming of both children and big people from the depth of Narrow Valley, and the happy

voice of Mary Mabel Rampart chanting “Earthquake! Earthquake!”

“That my valley be always wide and flourish and such stuff, and green with money and grass!” Clarence Little-Saddle orated in Pawnee chant style, “but that it be narrow if intruders come, smash them like bugs!”

People, that valley wasn’t over a hundred feet wide now, and the screaming of the people in the bottom of the valley had been joined by the hysterical coughing of the camper car starting up.

Willy and Clarence threw everything that was left on the fire. But the word? The word? Who remembers the word?

“Corsicanatexas!” Clarence Little-Saddle howled out with the confidence he hoped would fool the fates.

He was answered not only by a dazzling sheet of summer lightning, but also by thunder and raindrops.

“Chahiksi!” Clarence Little-Saddle swore. “It worked. I didn’t think it would. It will be all right now. I can use the rain.”

The valley was again a ditch only five feet wide.

The camper car struggled out of Narrow Valley through the little gate. It was smashed flat as a sheet of paper, and the screaming kids and people in it had only one dimension.

“It’s closing in! It’s closing in!” Robert Rampart roared, no thicker than if he had been made out of cardboard.

“We’re smashed like bugs,” the Rampart boys intoned. “We’re thin like paper.”

“Mort, ruine, ecraisement!” spoke-acted Cecilia Rampart like the great tragedienne she was.

“Help! Help!” Nina Rampart croaked, but she winked at Willy and Clarence as they rolled by. “This homesteading jag always did leave me a little flat.”

“Don’t throw those paper dolls away. They might be the Ramparts,” Mary Mabel called.

The camper car coughed again and bumped along on level ground. This couldn’t last forever. The car was widening out as it bumped along.

“Did we overdo it, Clarence?” Willy McGilly asked. “What did one flat-lander say to the other?”

“Dimension of us never got around,” Clarence said, “No, I don’t think we overdid it, Willy. That car must be eighteen inches wide already, and they all ought to be normal by the time they reach the main road. The next time I do it, I think I’ll throw wood-grain

plastic on the fire to see who's kidding who."

EMPIRE OF THE ANTS

H. G. Wells

Herbert George Wells (1866-1946) didn't invent science fiction, but he is probably the most significant figure in its history. In an amazingly fertile ten-year period beginning about 1895 he produced eight or ten novels and dozens of short stories that exhaustively explored every theme of modern science fiction—time travel, space travel, mutation, interplanetary strife, the perils of technology, and all the rest—with such intellectual vigor and human insight that his work is still popular long after most other fiction of its day has been forgotten. Such masterpieces as The Time Machine, The Island of Dr. Moreau, *and* The War of the Worlds *remain the classic statements of their subjects. His inventive short stories, too, continue to hold readers now as they did in the 1890's —as, for instance, this unsettling account of invasion by the insect world.*

I

When Captain Gerilleau received instructions to take his new gunboat, the *Benjamin Constant,* to Badama on the Batemo arm of the Guaramadema and there assist the inhabitants against a plague of ants, he suspected the authorities of mockery. His promotion had been romantic and irregular, the affections of a prominent Brazilian lady and the captain's liquid eyes had played a part in the process, and the *Diario* and *O Futuro* had been lamentably disrespectful in their comments. He felt he was to give further occasion for disrespect.

He was a Creole, his conceptions of etiquette and discipline were pure-blooded Portuguese, and it was only to Holroyd, the Lancashire engineer who had come over with the boat, and as an exercise in the use of English—his "th" sounds were very uncertain —that he opened his heart.

"It is in effect," he said, "to make me absurd! What can a man do against ants? Dey come, dey go."

"They say," said Holroyd, "that these don't go. That chap you said was a Sambo—"

“Zamboo; —it is a sort of mixture of blood.”

“Sambo. He said the people are going!”

The captain smoked fretfully for a time. “Dese tings ’ave to ’appen,” he said at last. “What is it? Plagues of ants and suchlike as God wills. Dere was a plague in Trinidad—the little ants that carry leaves. All der orange-trees, der mangoes! What does it matter? Sometimes ant armies come into your houses—fighting ants; a different sort. You go and dey clean the house. Den you come back again;—the house is clean, like new! No cockroaches, no fleas, no jiggers in the floor.”

“That Sambo chap,” said Holroyd, “says these are a different sort of ant.”

The captain shrugged his shoulders, fumed, and gave his attention to a cigarette.

Afterward he reopened the subject. “My dear ’Olroyd, what am I to do about dese infernal ants?”

The captain reflected. “It is ridiculous,” he said. But in the afternoon he put on his full uniform and went ashore, and jars and boxes came back to the ship and subsequently he did. And Holroyd sat on deck in the evening coolness and smoked profoundly and marveled at Brazil. They were six days up the Amazon, some hundreds of miles from the ocean, and east and west of him there was a horizon like the sea, and to the south nothing but a sandbank island with some tufts of scrub. The water was always running like a sluice, thick with dirt, animated with crocodiles and hovering birds, and fed by some inexhaustible source of tree trunks; and the waste of it, the headlong waste of it, filled his soul. The town of Alemquer, with its meager church, its thatched sheds for houses, its discolored ruins of ampler days, seemed a little thing lost in this wilderness of Nature, a sixpense dropped on Sahara. He was a young man, this was his first sight of the tropics, he came straight from England, where Nature is hedged, ditched, and drained into the perfection of submission, and he had suddenly discovered the insignificance of man. For six days they had been steaming up from the sea by unfrequented channels, and man had been as rare as a rare butterfly. One saw one day a canoe, another day a distant station, the next no men at all. He began to perceive that man is indeed a rare animal, having but a precarious hold upon this land.

He perceived it more clearly as the days passed, and he made his devious way to the Batemo, in the company of this remarkable

commander, who ruled over one big gun, and was forbidden to waste his ammunition. Holroyd was learning Spanish industriously, but he was still in the present tense and substantive stage of speech, and the only other person who had any words of English was a Negro stoker, who had them all wrong. The second in command was a Portuguese, da Cunha, who spoke French, but it was a different sort of French from the French Holroyd had learned in Southport, and their intercourse was confined to politenesses and simple propositions about the weather. And the weather, like everything else in this amazing new world, the weather had no human aspect, and was hot by night and hot by day, and the air steam, even the wind was hot steam, smelling of vegetation in decay; and the alligators and the strange birds, the flies of many sorts and sizes, the beetles, the ants, the snakes, and the monkeys seemed to wonder what man was doing in an atmosphere that had no gladness in its sunshine and no coolness in its night. To wear clothing was intolerable, but to cast it aside was to scorch by day, and to expose an ampler area to the mosquitoes by night; to go on deck by day was to be blinded by glare and to stay below was to suffocate. And in the daytime came certain flies, extremely clever and noxious about one's wrist and ankle. Captain Gerilleau, who was Holroyd's sole distraction from these physical distresses, developed into a formidable bore, telling the simple story of his heart's affections day by day, a string of anonymous women, as if he were telling beads. Sometimes he suggested sport, and they shot at alligators, and at rare intervals they came to human aggregations in the waste of trees, and stayed for a day or so, and drank and sat about, and, one night, danced with Creole girls, who found Holroyd's poor elements of Spanish, without either past tense or future, amply sufficient for their purposes. But these were mere luminous chinks in the long gray passage of the steaming river, up which the throbbing engines beat. A certain liberal heathen deity, in the shape of a demijohn, held seductive court aft, and, it is probable, forward.

But Gerilleau learnt things about the ants, more things and more, at this stopping-place and that, and became interested in his mission.

"Dey are a new sort of ant," he said. "We have got to be —what do you call it—entomology? Big. Five centimeters! Some bigger! It is ridiculous. We are like the monkeys— sent to pick insects. . . .

But dey are eating up the country."

He burst out indignantly. "Suppose—suddenly, there are complications with Europe. Here am I—soon we shall be above the Rio Negro, and my gun, useless!"

He nursed his knee and mused.

"Dose people who were dere at the dancing place, dey 'ave come down. Dey 'ave lost all they got. De ants come to deir house one afternoon. Everyone run out. You know when de ants come one must—everyone runs out and dey go over the house. If you stayed dey'd eat you. See? Well, presently dey go back; dey say, 'De ants 'ave gone.' . . . De ants ***'aven't*** gone. Dey try to go in—de son, 'e goes in. De ants fight."

"Swarm over him?"

"Bite 'im. Presently he comes out again—screaming and running. He runs past them to the river. See? He gets into de water and drowns de ants—yes." Gerilleau paused, brought his liquid eyes close to Holroyd's face, tapped Holroyd's knee with his knuckle. "That night he dies, just as if he was stung by a snake."

"Poisoned—by the ants?"

"Who knows?" Gerilleau shrugged his shoulders. "Perhaps dey bit him badly. . . . When I joined dis service I joined to fight men. Dese things, dese ants, dey come and go. It is no business for men."

After that he talked frequently of the ants to Holroyd, and whenever they chanced to drift against any speck of humanity in that waste of water and sunshine and distant trees, Holroyd's improving knowledge of the language enabled him to recognize the ascendant word ***Saiiba,*** more and more completely dominating the whole.

He perceived the ants were becoming interesting, and the nearer he drew to them the more interesting they became. Gerilleau abandoned his old themes almost suddenly, and the Portuguese lieutenant became a conversational figure; he knew something about the leaf-cutting ant, and expanded his knowledge. Gerilleau sometimes rendered what he had to tell to Holroyd. He told of the little workers that swarm and fight, and the big workers that command and rule, and how these latter always crawled to the neck and how their bites drew blood. He told how they cut leaves and made fungus beds, and how their nests in Caracas are sometimes a hundred yards across. Two days the three men spent disputing whether ants have eyes. The discussion grew dangerously heated on

the second afternoon, and Holroyd saved the situation by going ashore in a boat to catch ants and see. He captured various specimens and returned, and some had eyes and some hadn't. Also, they argued, do ants bite or sting?"

"Dese ants," said Gerilleau, after collecting information at a rancho, "have big eyes. They don't run about blind— not as most ants do. No! Dey get in the corners and watch what you do."

"And they sting?" asked Holroyd.

"Yes. Dey sting. Dere is poison in the sting." He meditated. "I do not see what men can do against ants. Dey come and go."

"But these don't go."

"Dey will," said Gerilleau.

Past Tamandu there is a long low coast of eighty miles without any population, and then one comes to the confluence of the main river and the Batemo arm like a great lake, and then the forest came nearer, came at last intimately near. The character of the channel changes, snags abound, and the *Benjamin Constant* moored by a cable that night, under the very shadow of dark trees. For the first time for many days came a spell of coolness, and Holroyd and Gerilleau sat late, smoking cigars and enjoying this delicious sensation. Gerilleau's mind was full of ants and what they could do. He decided to sleep at last, and lay down on a mattress on deck, a man hopelessly perplexed, his last words, when he already seemed asleep, were to ask, with a flourish of despair, "What can one do with ants? . . . De whole thing is absurd."

Holroyd was left to scratch his bitten wrists, and meditate alone.

He sat on the bulwark and listened to the little changes in Gerilleau's breathing until he was fast asleep, and then the ripple and lap of the stream took his mind, and brought back that sense of immensity that had been growing upon him since first he had left Para and come up the river. The monitor showed but one small light, and there was a little talking forward and then stillness. His eyes went from the dim black outlines of the middle works of the gunboat towards the bank, to the black overwhelming mysteries of the forest, lit now and then by a firefly, and never still from the murmur of alien and mysterious activities. . . .

It was the inhuman immensity of this land that astonished and oppressed him. He knew the skies were empty of men, the stars were specks in an incredible vastness of space; he knew the ocean

was enormous and untamable, but in England he had come to think of the land as man's. In England it is indeed man's, the wild things live by sufferance, grow on lease, everywhere the roads, the fences, and absolute security runs. In an atlas, too, the land is man's, and all colored to show his claim to it—in vivid contrast to the universal independent blueness of the sea. He had taken it for granted that a day would come when everywhere about the earth, plough and culture, light tramways and good roads, an ordered security, would prevail. But now, he doubted.

This forest was interminable, it had an air of being invincible, and man seemed at best an infrequent precarious intruder. One traveled for miles, amidst the still, silent struggle of giant trees, of strangulating creepers, of assertive flowers, everywhere the alligator, the turtle, and endless varieties of birds and insects seemed at home, dwelt irreplaceably—but man, man at most held a footing upon resentful clearings, fought weeds, fought beasts and insects for the barest foothold, fell a prey to snake and beast, insect and fever, and was presently carried away. In many places down the river he had been manifestly driven back, this deserted creek or that preserved the name of a *casa,* and here and there ruinous white walls and a shattered tower enforced the lesson. The puma, the jaguar, were more the masters here. . . .

Who were the real masters?

In a few miles of this forest there must be more ants than there are men in the whole world! This seemed to Holroyd a perfectly new idea. In a few thousand years man had emerged from barbarism to a stage of civilization that made them feel lords of the future and masters of the earth! But what was to prevent the ants from evolving also? Such ants as one knew lived in little communities of a few thousand individuals, made no concerted efforts against the greater world. But they had a language, they had an intelligence! Why should things stop at the barbaric stage? Suppose presently the ants began to store knowledge, just as men had done by means of books and records, use weapons, form great empires, sustain a planned and organized war?

Things came back to him that Gerilleau had gathered about these ants they were approaching. They used a poison like the poison of snakes. They obeyed greater leaders, even as the leaf-cutting ants do. They were carnivorous, and where they came, they stayed. . . .

Gerilleau stirred in the darkness and sighed. “What can one *do*?” he murmured, and turned over and was still again.

Holroyd was roused from meditations that were becoming sinister by the hum of a mosquito.

II

The next morning Holroyd learned they were within forty kilometers of Badama, and his interest in the banks intensified. He came up whenever an opportunity offered to examine his surroundings. He could see no signs of human occupation whatever, save for a weedy ruin of a house and the green-stained facade of the long-deserted monastery at Moju, with a forest tree growing out of a vacant window space, and great creepers netted across its vacant portals. Several flights of strange yellow butterflies with semi-transparent wings crossed the river that morning, and many alighted on the monitor and were killed by the men. It was towards afternoon that they came upon the derelict *cuberta.*

She did not at first appear to be derelict; both her sails were set and hanging slack in the afternoon calm, and there was the figure of a man sitting on the fore planking beside the shipped sweeps. Another man appeared to be sleeping face downward on the sort of longitudinal bridge these big canoes have in the waist. But it was presently apparent, from the sway of her rudder and the way she drifted into the course of the gunboat, that something was out of order with her. Gerilleau surveyed her through a field glass, and became interested in the queer darkness of the face of the sitting man, a red-faced man, he seemed, without a nose— crouching he was, rather than sitting, and the longer the captain looked, the less he liked to look at him. and the less able he was to take his glasses away.

But he did so at last, and went a little way to call up Holroyd. Then he went back to hail the *cuberta.* He hailed her again, and so she drove past him. *Santa Rosa* stood out clearly as her name.

As she came by and into the wake of the monitor, she pitched a little, and suddenly the figure of the crouching man collapsed as though all its joints had given way. His hat fell off, his head was not nice to look at, and his body flopped lax and rolled out of sight behind the bulwarks.

“Caramba!” cried Gerilleau, and resorted to Holroyd forthwith.

Holroyd was halfway up the companion. “Did you see dat?” said the captain.

“Dead!” said Holroyd. “Yes. You’d better send a boat aboard. There’s something wrong.”

“Did you—by any chance—see his face?”

Earth Is the Strangest Planet “What was it like?”

“It was—ugh!—I have no words.” And the captain suddenly turned his back on Holroyd and became an active and strident commander.

The gunboat came about, steamed parallel to the erratic course of the canoe, and dropped the boat with Lieutenant da Cunha and three sailors to board her. Then the curiosity of the captain made him draw up almost alongside as the lieutenant got aboard, so that the whole of the *Santa Rosa,* deck and hold, was visible to Holroyd.

He saw now clearly that the sole crew of the vessel was these two dead men, and though he could not see their faces, he saw by their outstretched hands, which were all of ragged flesh, that they had been subjected to some strange exceptional process of decay. For a moment his attention concentrated on those two enigmatical bundles of dirty clothes and laxly flung limbs, and then his eyes went forward to discover the open hold piled high with trunks and cases, and aft, to where the little cabin gaped inexplicably empty. Then he became aware that the planks of the middle decking were dotted with moving black specks.

His attention was riveted by these specks. They were all walking in directions radiating from the fallen man in a manner—the image came unsought to his mind—like the crowd dispersing from a bullfight.

He became aware of Gerilleau beside him. *“Capo,”* he said, “have you your glasses? Can you focus as closely as those planks there?”

Gerilleau made an effort, grunted, and handed him the glasses.

There followed a moment of scrutiny. “It’s ants,” said the Englishman, and handed the focused field glass back to Gerilleau.

His impression of them was of a crowd of large black ants, very like ordinary ants except for their size, and for the fact that some of the larger of them bore a sort of clothing of gray. But at the time his inspection was too brief for any particulars. The head of Lieutenant da Cunha appeared over the side of the *cuberta,* and a brief colloquy ensued.

“You must go aboard,” said Gerilleau.

The lieutenant changed the subject. “How did these men die?” he asked.

Captain Gerilleau embarked upon speculations that Holroyd could not follow, and the two men disputed with a certain increasing vehemence. Holroyd took up the field glass and resumed his scrutiny, first of the ants and then of the dead man amidships.

He has described these ants to me very particularly.

He says they are as large as any ants he has ever seen, black and moving with a steady deliberation very different from the mechanical fussiness of the common ant. About one in twenty was much larger than its fellows, and with an exceptionally large head. These reminded him at once of the master workers who are said to rule over the leaf-cutter ants; like them they seemed to be directing and coordinating the general movements. They tilted their bodies back in a manner altogether singular, as if they made some use of the fore feet. And he had a curious fancy that he was too far off to verify, that most of these ants of both kinds were wearing accouterments, had things strapped about their bodies by bright white bands like white metal threads. . . .

He put down the glasses abruptly, realizing that the question of discipline between the captain and his subordinate had become acute.

“It is your duty,” said the captain, “to go aboard. It is my instructions.”

The lieutenant seemed on the verge of refusing. The head of one of the mulatto sailors appeared beside him.

“I believe these men were killed by the ants,” said Holroyd abruptly in English.

The captain burst into a rage. He made no answer to Holroyd. “I have commanded you to go aboard,” he screamed to his subordinate in Portuguese. “If you do not go aboard forthwith, it is mutiny—rank mutiny. Mutiny and cowardice! Where is the courage that should animate us? I will have you in irons, I will have you shot like a dog.” He began a torrent of abuse and curses, he danced to and fro. He shook his fists, he behaved as if beside himself with rage, and the lieutenant, white and still, stood looking at him. The crew appeared forward, with amazed faces.

Suddenly, in a pause of this outbreak, the lieutenant came to some heroic decision, saluted, drew himself together and clambered

upon the deck of the *cuberta.*

"Ah!" said Gerilleau, and his mouth shut like a trap. Holroyd saw the ants retreating before da Cunha's boots. The Portuguese walked slowly to the fallen man, stooped down, hesitated, clutched his coat and turned him over. A black swarm of ants rushed out of the clothes, and da Cunha stepped back very quickly and trod two or three times on the deck.

Holroyd put up the glasses. He saw the scattered ants about the invader's feet, and doing what he had never seen ants doing before. They had nothing of the blind movements of the common ant; they were looking at him—as a rallying crowd of men might look at some gigantic monster that had dispersed it.

"How did he die?" the captain shouted.

Holroyd understood the Portuguese to say the body was too much eaten to tell.

"What is there forward?" asked Gerilleau.

The lieutenant walked a few paces, and began his answer in Portuguese. He stopped abruptly and beat off something from his leg. He made some peculiar steps as if he were trying to stamp on something invisible, and went quickly toward the side. Then he controlled himself, turned about, walked deliberately forward to the hold, clambered up to the fore decking, from which the sweeps were worked, stooped for a time over the second man, groaned audibly, and made his way back and aft to the cabin, moving very rigidly. He turned and began a conversation with his captain, cold and respectful in tone on either side, contrasting vividly with the wrath and insult of a few moments before. Holroyd could gather only fragments of its purport.

He reverted to the field glass, and was surprised to find the ants had vanished from all the exposed surfaces of the deck. He turned toward the shadows beneath the decking, and it seemed to him they were full of watching eyes.

The *cuberta,* it was agreed, was derelict, but too full of ants to put men aboard to sit and sleep; it must be towed. The lieutenant went forward to take in and adjust the cable, and the men in the boat stood up to be ready to help him. Holroyd's glasses searched the canoe.

He became more and more impressed by the fact that a great if minute and furtive activity was going on. He perceived that a number of gigantic ants—they seemed nearly a couple of inches in

length—carrying oddly shaped burdens for which he could imagine no use—were moving in rushes from one point of obscurity to another. They did not move in columns across the exposed places, but in open, spaced-out lines, oddly suggestive of the rushes of modern infantry advancing under fire. A number were taking cover under the dead man's clothes, and a perfect swarm was gathering along the side over which da Cunha must presently go.

He did not see them actually rush for the lieutenant as he returned, but he has no doubt they did make a concerted rush. Suddenly the lieutenant was shouting and cursing and beating at his legs. "I'm stung!" he shouted, with a face of hate and accusation towards Gerilleau.

Then he vanished over the side, dropped into his boat, and plunged at once into the water. Holroyd heard the splash.

The three men in the boat pulled him out and brought him aboard, and that night he died.

III

Holroyd and the captain came out of the cabin in which the swollen and contorted body of the lieutenant lay and stood together at the stern of the monitor, staring at the sinister vessel they trailed behind them. It was a close, dark night that had only phantom flickerings of sheet lightning to illuminate it. The *cuberta,* a vague black triangle, rocked about in the steamer's wake, her sails bobbing and flapping, and the black smoke from the funnels, spark-lit ever and again, streamed over her swaying masts.

Gerilleau's mind was inclined to run on the unkind things the lieutenant had said in the heat of his last fever.

"He says I murdered 'im," he protested. "It is simply absurd. Someone *'ad* to go aboard. Are we to run away from dese confounded ants whenever they show up?"

Holroyd said nothing. He was thinking of a disciplined rush of little black shapes across bare sunlit planking.

"It was his place to go," harped Gerilleau. "He died in the execution of his duty. What has he to complain of? Murdered! . . . But the poor fellow was—what is it?— demented. He was not in his right mind. De poison swelled him . . . u'm."

They came to a long silence.

"We will sink that canoe—burn it."

“And then?”

The inquiry irritated Gerilleau. His shoulders went up, his hands flew out at right angles from his body. “What is one to *do?”* he said, his voice going up to an angry squeak.

“Anyhow,” he broke out vindictively, “every ant in dat *cuberta*! —I will burn dem alive!”

Holroyd was not moved to conversation. A distant ululation of howling monkeys filled the sultry night with foreboding sounds, and as the gunboat drew near the black mysterious banks, this was reinforced by a depressing clamor of frogs.

“What is one to *do?”* the captain repeated after a vast interval, and suddenly becoming active and savage and blasphemous, decided to burn the *Santa Rosa* without further delay. Everyone on board was pleased by that idea, everyone helped with zest; they pulled in the cable, cut it, and dropped the boat and fired her with tow and kerosine, and soon the *cuberta* was crackling and flaring merrily amid the immensities of the tropical night. Holroyd watched the mounting yellow flare against the blackness, and the livid flashes of sheet lightning that came and went above the forest summits, throwing them into momentary silhouette, and his stoker stood behind him watching also.

The stoker was stirred to the depth of his linguistics.

“Saiiba go pop, pop,” he said. “Wahaw!” and laughed richly.

But Holroyd was thinking that these little creatures on the decked canoe had also eyes and brains.

The whole thing impressed him as incredibly foolish and wrong, but—what was one to *do?* This question came back enormously reinforced on the morrow, when at last the gunboat reached Badama.

This place, with its leaf-thatch-covered houses and sheds, its creeper-invaded sugar mill, its little jetty of timber and canes, was very still in the morning heat, and showed never a sign of living men. Whatever ants were at that distance were too small to see.

“All de people have gone,” said Gerilleau, “but we will do one thing anyhow. We will ’oot the vissel.”

So Holroyd hooted and whistled.

Then the captain fell into a doubting fit of the worst kind. “Dere is one thing we can do,” he said presently.

“What’s that?” said Holroyd.

“ ’Oot and vissel again.”

So they did.

The captain walked his deck and gesticulated to himself. He seemed to have many things on his mind. Fragments of speeches came from his lips. He appeared to be addressing some imaginary public tribunal either in Spanish or Portuguese. Holroyd's improving ear detected something about ammunition. He came out of these preoccupations suddenly into English. "My dear 'Olroyd!" he cried, and broke off with "But what *can* one do?"

They took the boat and the field glasses, and went close in to examine the place. They made out a number of big ants, whose still postures had a certain effect of watching them, dotted about the edge of the rude embarkation jetty. Gerilleau tried ineffectual pistol shots at these. Holroyd thinks he distinguished curious earthworks running between the nearer houses, that may have been the work of the insect conquerors of those human habitations. The explorers pulled past the jetty, and became aware of a human skeleton wearing a loin cloth, and very bright and clean and shining, lying beyond. They came to a pause regarding this. . . .

"I 'ave all dose lives to consider," said Gerilleau suddenly.

Holroyd turned and stared at the captain, realizing slowly that he referred to the unappetizing mixture of races that constituted his crew.

"To send a landing party—it is impossible—impossible. They will be poisoned, they will swell, they will swell up and abuse me and die. It is totally impossible. ... If we land, I must land alone, alone, in thick boots and with my life in my hand. Perhaps I should live. Or again—I might not land. I do not know. I do not know."

Holroyd thought he did, but he said nothing.

"De whole thing," said Gerilleau suddenly, " 'as been got up to make me ridiculous. De whole thing!"

They paddled about and regarded the clean white skeleton from various points of view, and then they returned to the gunboat. Then Gerilleau's indecisions became terrible. Steam was got up, and in the afternoon the monitor went on up the river with an air of going to ask somebody something, and by sunset came back again and anchored. A thunderstorm gathered and broke furiously, and then the night became beautifully cool and quiet and everyone slept on deck. Except Gerilleau, who tossed about and muttered. In the dawn he awakened Holroyd.

"Lord!" said Holroyd, "what now?"

"I have decided," said the captain.

"What—to land?" said Holroyd, sitting up brightly.

"No!" said the captain, and was for a time very reserved. "I have decided," he repeated, and Holroyd manifested symptoms of impatience.

"Well—yes," said the captain. "*I shall fire de big gun!*"

And he did! Heaven knows what the ants thought of it, but he did. He fired it twice with great sternness and ceremony. All the crew had wadding in their ears, and there was an effect of going into action about the whole affair, and first they hit and wrecked the old sugar mill, and then they smashed the abandoned store behind the jetty. And then Gerilleau experienced the inevitable reaction.

"It is no good," he said to Holroyd; "no good at all. No sort of bally good. We must go back—for instructions. Dere will be de devil of a row about his ammunition—oh! de *devil* of a row! You don't know, 'Olroyd. . . ."

He stood regarding the world in infinite perplexity for a space.

"But what else was there to *do?*" he cried.

In the afternoon the monitor started downstream again, and in the evening a landing party took the body of the lieutenant and buried it on the bank upon which the new ants had not so far appeared. . . .

IV

I heard this story—in a fragmentary state—from Holroyd not three weeks ago.

These new ants have got into his brain, and he has come back to England with the idea, as he says, of "exciting people" about them "before it is too late." He said they threaten British Guiana, which cannot be much over a trifle of a thousand miles from their present sphere of activity, and that the Colonial Office ought to get to work upon them at once. He declaims with great passion: "These are intelligent ants. Just think what that means!"

There can be no doubt they are a serious pest, and that the Brazilian government is well advised in offering a prize of five hundred pounds for some effectual method of extirpation. It is certain, too, that since they first appeared in the hills beyond Badama, about three years ago, they have achieved extraordinary

conquests. The whole of the south bank of the Batemo River, for nearly sixty miles, they have in their effectual occupation; they have driven men out completely, occupied plantations and settlements, and boarded and captured at least one ship. It is even said they have in some inexplicable way bridged the very considerable Capuarana arm and pushed many miles towards the Amazon itself. There can be little doubt that they are far more reasonable and with a far better social organization than any previously known ant species; instead of being in-dispersed societies they are organized into what is in effect a single nation; but their peculiar and immediate formidableness lies not so much in this as in the intelligent use they make of poison against their larger enemies. It would seem this poison of theirs is closely akin to snake poison, and it is highly probable they actually manufacture it, and that the larger individuals among them carry the needlelike crystals of it in their attacks upon men.

Of course, it is extremely difficult to get any detailed information about these new competitors for the sovereignty of the globe. No eyewitnesses of their activity, except for such glimpses as Holroyd's, have survived the encounter. The most extraordinary legends of their prowess and capacity are in circulation in the region of the upper Amazon, and grow daily as the steady advance of the invader stimulates men's imaginations through their fears. These strange little creatures are credited not only with the use of .implements and a knowledge of fire and metals and with organized feats of engineering that stagger our northern minds—unused as we are to such feats as that of the Saubas of Rio de Janeiro, who in 1841 drove a tunnel under the Parahyba where it is as wide as the Thames at London Bridge—but with an organized and detailed method of record and communication analogous to our books. So far their action has been a steady progressive settlement, involving the flight or slaughter of every human being in the new areas they invade. They are increasing rapidly in numbers, and Holroyd at least is firmly convinced that they will finally dispossess man over the whole of tropical South America.

And why should they stop at tropical South America?

Well, there they are, anyhow. By 1911 or thereabouts, if they go on as they are doing, they ought to strike the Capuarana Extension Railway, and force themselves upon the attention of the European capitalist.

By 1920 they will be halfway down the Amazon. I fix 1950 or 1960 at the latest for the discovery of Europe.

THE NIGHT THAT ALL TIME BROKE OUT

Brian W. Aldiss

This is not a very serious story. I think H. G. Wells, when he wrote "The Empire of the Ants" really wanted the reader to believe, at least while reading, that such horrors might lurk in the tropics. I think Robert Abernathy would like us to believe in his rotifers, Raymond Gallun in his deep-sea denizens, maybe even Nelson Bond in his giant bird. But, although I am not privy to what was going on in Brian Aldiss' mind when he wrote "The Night That All Time Broke Out " I suspect that he never took "time gas" seriously as a likely scientific concept, nor does he really want us to. No, I think that this genial, high-spirited British author, famed for such soaring works of imagination as The Long Afternoon of Earth *and* Greybeard, *was simply having fun, treating himself—and us—to a playful romp, the day he dreamed up time gas and turned it loose.*

The dentist bowed her smiling to the door, dialing a cab for her as he went. It alighted on the balcony as she emerged.

It was a non-automatic type, old-fashioned enough to be considered chic. Fifi Fevertrees smiled dazzlingly at the driver and climbed in.

"Extra-city service," she said. "The village of Rouse-ville, off Route Z-Four."

"You live in the country, huh?" said the cab driver, sailing up into the pseudo-blue, and steering like a madman with one foot.

"The country's okay," Fifi said defensively. She hesitated and then decided she could allow herself to boast. "Besides, it's even better now they got the time mains out there. We're just being connected to the time main at our house—it should be finished when I get home."

The cabby shrugged. "Reckon it's costly out in the country."

"Three payts a basic unit."

He whistled significantly.

She wanted to tell him more, wanted to tell him how excited she was, how she wished Daddy were alive to experience the fun of

being on the time main. But it was difficult to say anything with a thumb in her mouth, as she looked into her wrist mirror and probed to see what the dentist had done to her.

He'd done a good job. The new little pearly tooth was already growing firmly in the pink gum. Fifi decided she had a very sexy mouth, just as Tracey said. And the dentist had removed the old tooth by time gas. So simple. Just a whiff of it and she was back in the day before yesterday, reliving that pleasant little interlude when she had taken coffee with Peggy Hackenson, with not a thought of any pain. Time gas was so smart these days. She positively glowed to think they would have it themselves, on tap all the while.

The bubble cab soared up and out of one of the dilating ports of the great dome that covered the city. Fifi felt a momentary sorrow at leaving. The cities were so pleasant nowadays that nobody wished to live outside them. Everything was double as expensive outside, too, but fortunately the government paid a hardship allowance for anyone like the Fevertrees, who had to live in the country.

In a couple of minutes they were sailing down to the ground again. Fifi pinpointed their dairy farm, and the cabby set them neatly down on their landing balcony before holding out his paw for an extortionate number of kilopayts. Only when he had the cash did he lean back and unlock Fifi's door with one foot. You couldn't put a thing over these chimp drivers.

She forgot all about him as she hurried down through the house. This was the day of days! It had taken the builders two months to install the central timing—two weeks longer than they had originally anticipated—and everywhen had been an awful muddle all that time, as the men trundled their pipes and wires through every room. Now all was orderly once more. She positively danced down the stairs to find her husband.

Tracy Fevertrees was standing in the kitchen, talking to the builder. When his wife burst in, he turned and took her hand, smiling in a way that was merely soothing to her, though it disturbed the slumbers of many a local Rouseville maiden. But his good looks could hardly match her beauty when she was excited, as she was at present.

"Is it all in working order?" she asked.

"There is just one last-minute snag," Mr. Archibald Smith said grudgingly.

“Oh, there’s always a last-minute snag! We’ve had fifteen of them in the last week, Mr. Smith. What now?”

“It’s nothing that should affect you here. It’s just that, as you know, we had to pipe the time gas rather a long way to you from the main supply down at Rouseville works, and we seem to have a bit of trouble maintaining pressure. There’s talk of a nasty leak at the main pit in the works, which they’re having a job to plug. But that shouldn’t worry you.”

“We’ve tested it all out here and it seems to work fine,” Tracey said to his wife. “Come on and I’ll show you!”

They shook hands with Mr. Smith, who showed a traditional builderly reluctance to leave the site of his labors. Finally he moved off, promising to be back in the morning to pick up a last bag of tools, and Tracey and Fifi were left alone with their new toy.

Among all the other kitchen equipment, the time panel hardly stood out. It was situated next to the nuclear unit, a discreet little fixture with a dozen small dials and twice that number of toggle switches.

He pointed out to her how the time pressures had been set: low for corridors and offices, higher for bedrooms, variable for the living room. She rubbed herself against him and made an imitation purr.

“You are thrilled, aren’t you, honey?” she asked.

“I keep thinking of the bills we have to pay. And the bills to come—three payts a basic unit—wow!” Then he saw her look of disappointment and added, “But of course I love it, darling. You know I’m going to be delighted.”

Then they bustled through the house, with the controls on. In the kitchen itself, they set themselves back to a recent early midmorning. They floated in time past at the time of day Fifi favored most for kitchen work, when the breakfast chores were over and it was long before the hour when lunch need be planned and dialed. Fifi and Tracey had selected a morning when she had been feeling particularly calm and well; the entire ambiance of that period swept over them now.

“Marvelous! Delicious! I can do anything, cook you anything, now!”

They kissed each other, and ran into the corridor, crying, “Isn’t science wonderful!”

They stopped abruptly. “Oh no!” Fifi cried.

The corridor was in perfect order, the drapes in place and gleaming metallically by the two windows, controlling the amount of light that entered, storing the surplus for off-peak hours, the creep-carpet in place and resprayed, carrying them smoothly forward, the paneling all warm and soft to the touch. But they were time-controlled back to three o'clock of an afternoon a month ago, a peaceful time of day—except that a month ago the builders had been at work here.

"Honey, they'll ruin the carpet! And I just know the paneling will not go back properly! Oh, Tracey, look— they've disconnected the drapes, and Smithy promised not to!"

He clutched her shoulder. "Honey, everything's in order, honest!"

"It's not! It's not in order! Look at these dirty old time tubes everywhere, and all these cables hanging about! They've ruined our lovely dust-absorbent ceiling—look at the way it's leaking dirt over *everything/*"

"Honey, it's the time effect!" But he had to admit that he could not credit the perfect corridor his eyes registered; he was carried away like Fifi by his emotions of a month ago when he viewed the place as it had been then, in the hands of Smithy and his terrible men.

They reached the end of the passage and jumped into the bedroom, escaping into another time zone. Peeping back through the door, Fifi said tearfully, "Gosh, Trace, the power of time! I guess we just have to alter the controls for the corridor, eh?"

"Sure, we'll tune in to a year ago, say a nice summer's afternoon along the passage. You name it, we dial it! That's the motto of Central Time Board, isn't it? Anyhow, how do you like the time in here?"

After gazing round the bedroom, she lowered her long lashes at him, "Mm, sort of relaxed, isn't it?"

"Two o'clock in the morning, honey, early spring, and everyone in the whole zone sleeping tight. We aren't likely to suffer from insomnia now!"

She came and stood against him, leaning on his chest and looking up at him. "You don't think that maybe eleven at night would be a more—well, *bedroomy* time?"

"You know I prefer the sofa for that sort of thing, honey. Come and sit on it with me and see what you think about the living

room."

The living room was one flight down, with only the garage and the dairy on the two floors below between them and the ground. It was a fine large room with fine large windows looking over the landscape to the distant dome of the city, and it had a fine large sofa standing in the middle of it.

They sat down on this voluptuous sofa and, past associations being what they were, commenced to cuddle. After a while Tracey reached down to the floor and pulled up a hand-switcher that was plugged into the wall.

"We can control our own time from here, without getting up, Fifi! You name the time and we flip back to it."

"If you're thinking of what I *think* you're thinking, then we'd better not go back more than ten months because we weren't married before that."

"Now, come on, Mrs. Fevertrees, are you getting old-fashioned or something? You never let that thought bother you before we were married."

"I did too!—Though maybe more *after* than at the time, when I was sort of carried away."

He stroked her pretty hair gently. "Tell you what I thought we could try sometime—dial back to when you were twelve. You must have been very sexy in your preteens, and I'd sure as hell love to find out. How about it?" She was about to deliver some conventional female rebuke, but her imagination got the better of her. "We could work back to when we were tots!"

"Attaboy! You know I have a touch of the Lolita complex!"

"Trace—we must be careful unless in our excitement we shoot back past the day we were born, or we'll wind up little blobs of protoplasm or something."

"Honey, you read the brochures! When we get up enough pressure to go right past our birth dates, we simply enter the consciousness of our nearest predecessors of the same sex—you your mother, me my father, and then your grandmother and my grandfather. Farther back than that, time pressure in the Rouseville mains won't let us go."

Conversation languished under other interests until Fifi murmured dreamily, "What a heavenly invention time is! Know what, even when we're old and gray and impotent, we'll be able to come back and enjoy ourselves as we were when we were young.

We'll dial back to this very instant, won't we?"

"Mmmm," he said. It was a universally shared sentiment.

That evening, they dined off a huge synthetic lobster. In her excitement over being on the time mains, Fifi had somehow dialed a slightly incorrect mixture—though she swore there was a misprint in the cookbook programming she had fed the kitchputer—and the dish was not all it should be. But they dialed themselves back to the time of one of the first and finest lobsters they had ever eaten together, shortly after their meeting two years before. The remembered taste took off the disappointment of the present taste.

While they were eating, the pressure went.

There was no sound. Externally, all was the same. But inside their heads, they felt themselves whirling through the days like leaves blown over a moor. Mealtimes came and went, and the lobster was sickening in their mouths as they seemed to chew in turn turkey, or cheese, or game, or trifle or sponge pudding or ice cream or breakfast cereal. For several mind-wrenching moments they sat there at table, petrified, while hundreds of assorted tastes chased themselves over their taste buds. Tracey jumped up gasping and cut off the time flow entirely at the switch by the door.

"Something's gone wrong!" he exclaimed. "It's that guy Smith. I'll dial him straightaway. I'll shoot him!"

But when Smith's face floated up in the vision tank, it was as bland as ever.

"The fault's not mine, Mr. Fevertrees. As a matter of fact, one of my men just dialed me to say that there's trouble at the Rouseville time works, where your pipe joins the main supply. Time gas is leaking out. I told you this morning they were having some bother there. Go to bed, Mr. Fevertrees—that's my suggestion. Go to bed, and in the morning all will probably be fixed again."

"Go to bed! How dare he tell us to go to bed!" Fifi exclaimed. "What an immoral suggestion! He's trying to hide something, that man. I'll bet this is some mistake of his and he's covering up with this story about a leak at the time works."

"We can soon check on that. Let's drive down there and see!"

They caught the elevator down to the ground floor and climbed into their land vehicle. City folk might laugh at these little wheeled hovercraft, so quaintly reminiscent of the automobiles of bygone days, but there was no doubt that they were indispensable in the country outside the domes, where free public transport did not

reach.

The doors opened and they rolled out, taking off immediately and floating forward a couple of feet above the ground. Rouseville lay over a low hill, and the time works was just on the far fringe of it. But as they sighted the first houses, something strange happened.

Though all was quiet, the land vehicle began to jerk around wildly. Fifi was flung about, and the next moment they were stuck in a hedge.

"Heck, these things are heavy! I must learn to drive one sometime!" Tracey said, climbing out.

"Aren't you going to help me down, Tracey?"

"Aw, I'm too big to play with girls!"

"You gotta help me! I lost my dolly!"

"You never had no dolly! Nuts to you!"

He ran on across the field and she had to follow him, calling as she ran. It was just so difficult trying to control the clumsy, heavy body of an adult with the mind of a child.

She found her husband sitting in the middle of the Rouseville road, kicking and waving his arms. He giggled at her. "Tace go walkey-walkey!" he said.

But in a few moments they were able to move along again on foot, though it was painful for Fifi, whose mother had been lame toward the end of her life. Together they hobbled forward, two young things in old postures. When they entered the little domeless village, it was to find most of the inhabitants about, and going through the whole spectrum of human age-characteristics, from burbling infancy to rattling senility. Obviously, something serious had happened at the time works.

Ten minutes and a few generations later, they arrived at the gates. Standing below the Central Time Board sign was Smith. They did not recognize him; he was wearing an anti-time gas mask; its exhaust spluttering as it spat out old moments.

"I thought you two might turn up!" he exclaimed. "Didn't believe me, eh? Well, you'd better come in with me and see for yourselves. They've struck a major gusher and the cocks couldn't stand the pressure and collapsed. My guess is they'll have to evacuate the whole area before they get this one fixed."

As he led them through the gates, Tracey said, "I just hope this isn't Ruskie sabotage!"

"Rusty what?"

“Ruskie sabotage. The work of the Russians. I presume this plant is secret?”

Smith stared at him in amazement. “You gone crazy, Mr. Fevertrees? The Russian nation got time mains just the same as us. You were on honeymoon in Odessa last year, weren’t you?”

“Last year I was on active service in Korea, thank you!”

“Korea?!”

With mighty siren noises, a black shape bearing red flashing lights above and below its bulk settled itself down in the Time Board yard. It was a robot-piloted fire engine from the city, but its human crew tumbled out in a weird confusion, and one young fellow lay yelling for his pants to be changed before the Time Board men could issue them anti-time gas masks. And then there was no fire for them to extinguish, only the great gusher of invisible time that by now towered over the building and the whole village, and blew to the four corners, carrying unimagined or forgotten generations on its mothproof breath.

“Let’s get forward and see what we can see,” Smith said. “We might just as well go home and have a drink as stand here doing nothing.”

“You are a very foolish young man if you mean what I suppose you to mean,” Fifi said, in an ancient and severe voice. “Most of the liquor currently available is bootleg and unsafe to consume—but in any case, I believe we should support the President in his worthy attempt to stamp out alcoholism, don’t you, Tracey darling?”

But Tracey was lost in an abstraction of strange memory, and whistling “La Paloma” under his breath to boot.

Stumbling after Smith, they got to the building, where two police officials stopped them. At that moment a plump man in a formal suit appeared and spoke to one of the police through his gas mask. Smith hailed him, and they greeted each other like brothers. It turned out they were brothers. Clayball Smith beckoned them all into the plant, gallantly taking Fifi’s arm—which, to reveal his personal tragedy, was about as much as he ever got off any pretty girl.

“Shouldn’t we have been properly introduced to this gentleman, Tracey?” Fifi whispered to her husband.

“Nonsense, my dear. Rules of etiquette have to go by the board when you enter one of the temples of industry/’ As he spoke, Tracey seemed to stroke an imaginary side whisker.

Inside the time plant chaos reigned. Now the full magnitude of the disaster was clear. They were pulling the first miners out of the hole where the time explosion had occurred; one of the poor fellows was cursing weakly and blaming George III for the whole terrible matter.

The whole time industry was still in its infancy. A bare ten years had elapsed since the first of the subterrenes, foraging far below the Earth's crust, had discovered the time pockets. The whole matter was still a cause for wonder, and investigations were as yet at a comparatively early stage.

But big business had stepped in and, with its usual bigheartedness, seen that everyone got his fair share of time, at a price. Now the time industry had more capital invested than any other industry in the world. Even in a tiny village like Rouseville, the plant was worth millions. But the plant had broken down right now.

"It's terrible dangerous here—you folks better not stay long," Clayball said. He was shouting through his gas mask. The noise here was terrible, especially since a news commentator had just started his spiel to the nation a yard away.

In answer to a shouted question from his brother, Clay-ball said, "No, it's more than a crack in the main supply. That was just the cover story we put out. Our brave boys down there struck a whole new time seam and it's leaking out all over the place. Can't plug it! Half our guys were back to the Norman Conquest before we guessed what was wrong." He pointed dramatically down through the tiles beneath their feet.

Fifi could not understand what on earth he was talking about. Ever since leaving Plymouth, she had been adrift, and that not entirely metaphorically. It was bad enough playing Pilgrim Mother to one of the Pilgrim Fathers, but she did not dig this New World at all. It was now beyond her comprehension to understand that the vast resources of modern technology were fouling up the whole time schedule of a planet.

In her present state, she could not know that already the illusions of the time gusher were spreading across the continent. Almost every communication satellite shuttling above the world was carrying more or less accurate accounts of the disaster and the events leading up to it, while their bemused audiences sank back through the generations like people plumbing bottomless

snowdrifts.

From these deposits came the supply of time that was piped to the million million homes of the world. Experts had already computed that at present rates of consumption all the time deposits would be exhausted in two hundred years. Fortunately, other experts were already at work trying to develop synthetic substitutes for time. Only the previous month, the small research team of Time Pen Inc., of Ink, Penn., had announced the isolation of a molecule nine minutes slower than any other molecule known to science, and it was firmly expected that even more isolated molecules would follow.

Now an ambulance came skidding up, with another behind it. Archibald Smith tried to pull Tracey out of the way.

"Unhand me, varlet!" quoth Tracey, attempting to draw an imaginary sword. But the ambulance men were jumping out of their vehicles, and the police were cordoning off the area.

"They're going to bring up our brave terranauts!" Clay-ball shouted.

He could hardly be heard above the hubbub. Masked men were everywhere, with here and there the slender figure of a masked nurse. Supplies of oxygen and soup were being marshaled, searchlights swung overhead, blazing down into the square mouth of the inspection pit. The men in yellow overalls were lowering themselves into the pit, communicating to each other by wrist radio. They disappeared. For a moment a hush of awe fell over the building and seemed to spread to the crowds outside.

But the moment stretched into minutes, and the noise found its way back to its own level. More grim-faced men came forward, and the commentators were pushed out of the picture.

"It thinks me we should suffer ourselves to get gone from here, by God's breath!" Fifi whispered faintly, clutching at her homespun with a trembling hand. "This likes me not!"

At last there was activity at the head of the pit. Sweating men in overalls hauled on ropes. The first terranaut was pulled into view, wearing the characteristic black uniform of his kind. His head lolled back, his mask had been ripped away, but he was fighting bravely to retain consciousness. Indeed, a debonair smile crossed his pale lips, and he waved a hand at the cameras. A ragged cheer went up from the onlookers.

This was the intrepid breed of men that went down into the

uncharted seas of time gas below the Earth's crust, risking their lives to bring back a nugget of knowledge from the unknown, pushing back still further the boundaries of science, unsung and unhonored by all save the constant battery of world publicity.

The ace commentator had struggled through the crowd to reach the terranaut and was trying to question him, holding a microphone to his lips while the hero's tortured face swam before the unbelieving eyes of a billion viewers.

"Hell down there. . . . Dinosaurs and their young," he managed to gasp, before he was whisked into the first ambulance. "Right down deep in the gas. Packs of 'em, ravening. . . . Few more hundred feet lower and we'd have fetched . . . fetched up against the creation ... of the world. . .

They could hear no more. Now fresh police reinforcements were clearing the building of all unauthorized persons before the other terranauts were returned to the surface, although of their earth capsule there was as yet no sign. As the armed cordon approached, Fifi and Tracey made a dash for it. They could stand no more, they could understand no more. They pelted for the door, oblivious to the cries of the two masked Smiths. As they ran out into the darkness, high above them towered the great invisible plume of the time gusher, still blowing, blowing its doom about the world.

For some while they lay gasping in the nearest hedge. Occasionally one of them would whimper like a tiny girl, or the other would groan like an old man. Between times, they breathed heavily.

Dawn was near to breaking when they pulled themselves up and made along the track toward Rouseville, keeping close to the fields.

They were not alone. The inhabitants of the village were on the move, heading away from the homes that were now alien to them and beyond their limited understanding. Staring at them from under his lowering brow, Tracey stopped and fashioned himself a crude cudgel from the hedgerow.

Together, the man and his woman trudged over the hill, heading back for the wilds like most of the rest of humanity, their bent and uncouth forms silhouetted against the first ragged banners of light in the sky.

"Ugh glumph hum herm morm glug humk," the woman

muttered.

Which means, roughly translated from the Old Stone, “Why the heck does this always have to happen to mankind just when he’s on the goddam point of getting civilized again?”

DAVY JONES' AMBASSADOR

Raymond Z. Gallun

No collection of stories about the wonders of this planet would be complete without one that ventures into the dark, enigmatic world of the ocean—which, after all, occupies most of the surface of our globe. This one, first published in 1935, is a classic—a moving, evocative tale of an alien civilization dwelling not on Mars or Venus but on this very world, hidden from us, unknown to us— and desperate for knowledge about us. Raymond Z. Gallun, one of science fiction's true pioneers, won a lasting reputation a generation ago with this story and such others as "Old Faithful," "The Magician of Dream Valley," and "Seeds of the Dusk." Though little was heard from him after the early 1950's, Gallun made a surprising and welcome reappearance in science fiction in 1974 with a novel, "The Eden Cycle," and another book is reported to be on the way.

I

It didn't look like a jet of water at all. It seemed too rigid, like a rod of glass; and it spattered over the instruments with a brittle, jingling sound, for such was the effect of the pressure behind it: more than four thousand pounds per square inch—the weight of nearly two and a half miles of black ocean.

Cliff Rodney, hunched in the pilot seat, stared at the widening stream. It made him see how good a thing life was, and how empty and drab the alternative was going to be. Cliff Rodney was young; he did not wish to die.

A few seconds ago all had been normal aboard the bathyspheric submarine. The velvet darkness of the depths, visible beyond the massive ports of the craft, had inspired awe in him, as it always would in human hearts; but to Cliff it had become familiar. The same was true of the schools of phosphorescent fish shining foggily through the gloom, and of the swarms of nether-world horrors that had darted into the bright golden path of the search beam.

Clifford Rodney, during his explorations, had grown accustomed to these elements of the deep-sea environment, until

they had assumed an aspect that was almost friendly.

But the illusion that it was safe here had been abruptly broken. Sinuous, rusty shadows, which bore a suggestion of menace that was new to him, had surged toward the submarine from out of the surrounding murk and ooze.

Attenuated, spidery crustaceans with long feelers had burrowed into the shelter of the mud beneath them. Little fish, some of them equipped with lamplike organs, some blind and lightless, all of them at once dreadful and comic with their needle-fanged jaws and grotesque heads, had scattered in terror.

Bulbous medusae, contracting and expanding their umbrella-shaped bodies, had swum hurriedly away. Even the pallid anemones had displayed defensive attitudes in the guarded contraction of their flowerlike crowns.

With canny craft the unknowns had avoided the search beam. Cliff had glimpsed only the swift motion of monstrous, armored limbs, and the baneful glitter of great eyes. Then the blow had fallen, like that of a battering ram. It had struck the forward observation port with a grinding concussion.

A crack, looking like a twisted ribbon of silver, had appeared in the thick, vitreous substance of the pane. From it, water had begun to spurt in a slender, unstanchable shaft that grew ominously as the sea spread the edges of the crevice wider and wider apart.

Automatically Cliff had done what he could. He had set the vertical screws of his craft churning at top speed to raise it toward the surface. But, in a moment, the blades had met with fierce resistance, as though clutched and held. The motors had refused to turn. The submarine had sunk back into the muck of the Atlantic's bed. An SOS was the last resort.

Cliff had sent it out quickly, knowing that though it would be picked up by the *Etruria*, the surface ship that served as his base of operations, nothing could be done to help him. He had reached the end of his resources.

Now, there was a breathless pause. The blackness without was inky. Cliff continued to gaze impotently at that slim cylinder of water. Ricocheting bits of it struck him, stinging fiercely, but he did not heed. It fascinated him, making him forget, almost, how it had all happened. His mind was blurred so that it conceived odd notions.

Pretty, the way that jet of water broke apart when it hit the

bright metal of the instruments. You wouldn't think that it was dangerous. Flying droplets scattered here and there like jewels, each of them glinting in the shaded glow of the light bulbs. And the sounds they made resembled the chucklings of elves and fairies.

A small creature of the depths, sucked through the breach, burst with a dull plop as the pressure of its normal habitat was removed.

He and that creature had much in common, Rodney thought. Both were pawns which chance had elected to annihilate. Only he was a man; men boasted of their control over natural forces. And he himself was a blatant and ironic symbol of that boast: They had sent him here in the belief that even the bed of the Atlantic might soon yield to human dominance!

The submarine gave a gentle lurch. The youth's eyes sharpened to a keener focus. A yard beyond the fractured port a pair of orbs hung suspended. Beneath them was a fleshy beak that opened and closed as the creature sucked water through its gills. Black, whiplike tentacles swarmed around it like the hairs of a Gorgon beard. And the flesh of the monster was transparent. Cliff could see the throbbing outlines of its vital organs.

Nothing unusual here—just another devil of the depths. So Cliff Rodney would have thought had it not been for certain suggestive impressions that touched lightly on his blurred faculties. That beaked mouth was vacuously empty of expression, but the great limpid orbs were keen. The tentacles clutched a little rod, pointed at one end as a goad would be. The impression was fleeting. With a ripple of finny members the horror disappeared from view.

"That rod," Cliff muttered aloud, "I wonder if that thing made it!"

He felt a cold twinge, that was an expression of many emotions, ripple over his flesh. He moved quickly, his booted feet sloshing in the water that was now six inches deep within the stout hull of the submarine. He turned a switch; the lights winked out. It was best to be concealed in darkness.

Once more the bathyspheric submarine rocked. Then it was whirled completely over. Cliff Rodney tumbled from the pilot chair. Icy fluid cascaded around him as his body struck the hard steel of the craft's interior.

He managed to protect his head with his arms, but contact with the metal sent a numbing, aching shock through his flesh.

Electricity; it could not have been anything else. He tried to curse, but the result was only a ragged gasp. Clinging desperately to the sunset edge of oblivion, he fell back among his instruments.

Impressions were very dim after that. The submarine was being towed somewhere by something. Water continued to pour into the hull, making a confused babble of sound. Rodney lay in the growing pool, the briny stuff bitter on his lips. Too near stunned to master his limbs, he rolled about the inundated floor.

With each eccentric motion of the craft, churning water slapped viciously against his face. He choked and coughed. If only he could keep his nose above the flood and breathe!

In some foggy recess of his mind he wondered why he was fighting for life, when the broken port alone was enough to doom him. Was instinct, or some deeper, more reasoned urge responsible? Cliff did not know, but for a fleeting instant the blank look of pain on his face was punctuated by a grim smile.

He was not the mythical iron man; he was a median of strengths and weaknesses, as are most humans. And, among humans, courage is almost as cheap as it is glorious.

Cliff could still hear the swish of great flippers shearing the sea beyond the eighteen-inch shell of the submarine. Harsh to his submerged ears, it was the last impression he received when consciousness faded out.

II

Reawakening was slow agony. He had been half-drowned. When his brain was clear enough for him to take stock of his surroundings he did not immediately note any remarkable change.

He was still within the stout little undersea boat that had brought him to the depths. The vessel was nearly two thirds full of brine, but by luck his body had been thrown over a metal brace, and for part of the time his head had been supported above the flood.

No more water was entering the hull through the eroded crevice in the window. In fact there was no motion at all, and except for a distant, pulsating hiss, the stillness was tomblike.

The air was heavy and oppressive. It reeked with a fetid stench that was almost unbearable. Mingled with the odor was a faint pungence of chlorine, doubtless brought about by the electrolysis of

sea water where it had penetrated some minor fault in the insulation of the submarine's electrical equipment. A gray luminescence seeped through the ports, lighting up the interior of the vessel dimly.

Soaked, dazed, battered, and chilled to the bone, Cliff struggled to the fractured window. There was air beyond it, not water. He had not extinguished the searchlight, and it still burned, for the storage cells that supplied current had been well protected against mishap.

There was no need to waste power to produce light here. A faint but adequate radiance seemed to come from the curving walls of the chamber in which the submarine had been docked. Cliff switched off the beam.

Groping down under the water, he found a lever and tugged at it. A valve opened, and the brine began to drain out of the submarine. The gurgling sound it made was harsh to his ears. Evidently the atmospheric pressure here was far above normal.

Next, he unfastened the hatch above his head, and hoisted its ponderous weight. Wearily he clambered through the opening and dropped down beside his craft.

The room was elliptical, domed, and bare of any furnishings. Its largest diameter was perhaps thirty-five feet, twice the length of the submarine. Puddles dotted the floor, and the walls were beaded with moisture which showed plainly that the place had been flooded recently. At opposite points there had been circular openings in the walls, one much larger than the other. Both were blocked now by great plugs of the translucent, amorphous material.

Cliff had two immediate urges: One was to get a better idea of where he was; the other was to find, if possible, a means of allaying his discomfort.

He started his investigations with the larger of the two plugs. It was held in place by a tough, glutinous cement, still sticky to the touch. From beyond it came a distant murmur of the sea. This, then, was the way by which the submarine had entered the chamber.

After the entrance had been sealed the water had been drawn off by some means through the several drains in the floor. The stream from the valve in the side of the submarine still gurgled into them, pumped away, perhaps, by some hidden mechanism. So much was clear.

Cliffs attention wandered to the walls, in quest of some

explanation of the phosphorescence that came from them. Their surface was hard and smooth like that of glass, but the substance that composed them was not glass. It had a peculiar, milky opalescent sheen, like mother-of-pearl. Squinting, he tried to peer through the cloudy, semitransparent material.

At a depth of a few inches little specks of fire flitted. They were tiny, self-luminous marine animals. Beyond the swarming myriads of them was another shell, white and opaque. He understood. The chamber was double-walled. There was water between the walls, and in it those minute light-giving organisms were imprisoned for the purpose of supplying illumination.

It was a simple bit of inventive ingenuity, but not one which men would be likely to make use of. In fact there was nothing about his new surroundings that was not at least subtly different from any similar thing that human beings would produce.

The glass of the domed chamber was not glass. It seemed to be nearer to the substance that composes the inner portion of a mollusk's shell, and yet it had apparently been made in one piece, for there was no visible evidence of joints where separate parts of the dome might have been fastened together. The blocks that sealed the openings in the walls were almost equally strange. Among men they would surely have been made of metal.

Clifford Rodney became more and more aware of the fact that he had come in contact with a civilization and science more fantastic than that of Mars or Venus could ever be. Those planets were worlds of air, as was the Earth he knew, while this was a world of water. Environment here presented handicaps and possibly offered advantages which might well have turned the sea folk's path of advancement in a direction utterly different from that followed by mankind.

Continuing his investigations, Cliff discovered that the air under the dome was admitted through four pipelike tubes which penetrated the double walls of his prison; but, of course, he could not discover where they originated. The air came through those tubes in rhythmic, hissing puffs, and escaped, he supposed, down the drains through which the water had been drawn, since there was no other outlet in evidence.

He wondered how the rancid stuff had been produced, and how his hosts had even known that he needed gaseous oxygen to breathe. He wondered whether they could have any conception of

the place whence he had come. To them a land of sunshine must be as ungraspable as a region of the fourth dimension!

He remembered the electric shock that had almost stunned him at the time of his capture. Electricity was produced here then. But how? As yet he had not so much as glimpsed a scrap of metal in his new surroundings.

Cliff shuddered, nor was the dank, bitter cold alone responsible. He could realize clearer than before that darkness and water with which his own normal environment had few things in common.

Belatedly it occurred to him that he was being watched by the curious of Submarinia. Standing now in the center of the slippery floor, he scanned the dome above him for evidence that his logic was correct. It was. Spaced evenly around the arching roof, more than halfway toward its central axis, was a ring of circular areas more transparent than the surrounding texture of the double walls.

Though not easily discernible at a casual glance, they were plain enough to him now. Through each, a pair of huge, glowing eyes and a Gorgon mass of black tentacles was visible. The ovoid bodies of the creatures were silhouetted against a nebulous luminescence originating from some unknown source beyond them.

The gaze of those monsters seemed cool and interested and intense, though Clifford Rodney felt that one could never be sure of what emotions, if any, their vacuous, beaked lips and limpid eyes betrayed. It would be difficult indeed to forget that they were completely inhuman.

Cliffs reaction was a kind of terror; though the only outward evidences of it were the strained hollows that came suddenly into his cheeks; still, the realization of his position thudded with ghastly weight into his mind. To those sea beings he was doubtless like a simple amoeba beneath a microscope, a specimen to be observed and studied.

Then his sense of humor rescued him. He chuckled halfheartedly through chattering teeth. At least no man had ever before been in a situation quite as novel as this. It was one which a scientist, eager to learn new things, should appreciate. Besides, perhaps now he could bring the adventure to a head.

He waved his arms toward the pairs of eyes that gazed steadily at him. “Hello!” he shouted. “What in the name of good manners are you trying to do to me? Get me out of here!”

They couldn't understand him, but anyway they could see by his gestures that he had discovered them, and that he was insisting on some sort of attention. Cliff Rodney was cold, and half-choked by the rancid air.

Things had to happen soon, or his stamina would be worn down and he would no longer be in a position to see them happen. The dank, frigid chill was the worst. The air would not have been so bad if it had not been for the retch-provoking stench that impregnated it. If he only had a dry cigarette and a match, it would help a lot.

That was a funny thought—a cigarette and a match! Had he expected these ovoid beings to supply him with such luxuries?

However, since there was no one else to whom he might appeal for help, he continued to shout epithets and pleas, and to flail his arms until he was nearly spent with effort.

Yet, the sea people gave no evidence of special response. The vital organs throbbed within their transparent bodies, tympanic membranes beneath their beaked mouths vibrated, perhaps transmitting to the water around them signals of a kind of vocal speech, inaudible to him, of course; and their tentacles scurried over the outer surfaces of the spy windows, producing a noise such as a mouse scampering inside a box might make, but Cliff saw no promise in their evident interest.

Every few minutes, one pair of eyes would turn away from a window, and another pair would take its place. The ovoids were managing the scrutiny of him just as humans would manage to show featuring a freak. He could imagine them out there waiting in line for a chance to see him. It was funny, but it was ghastly, too.

Exhausted, he gave up. Probably they couldn't help him anyway. If he only had something dry to keep the chill away from his shivering flesh!

Hopefully he scrambled up the side of the submarine and lowered himself through the hatch. There was a little electric heater there, but a brief examination of it confirmed his well-founded suspicions. Soaked with brine, its coils were shorted and it refused to work. He had no means of drying it out sufficiently, and so he turned on the search beam.

If he crouched against the lamp, he might capture a little heat.

He climbed out of the dripping, disordered interior. Before dropping to the floor of the domed chamber he stood on tiptoe on

the curved back of the submarine and attempted to peer through one of the spy windows in the rotunda over his head.

Even now the mystery of what lay beyond the glowing walls of the room beneath the sea could fascinate him. But his vantage point was not quite high enough, nor was there any easy means to make it higher. He saw only a flicker of soft, greenish light beyond the motionless, ovoid shape that occupied the window.

He slid weakly off the submarine and pressed his body against the lens of the searchlight. The rays warmed him a little—a very little—enough to tantalize him with the thought that such a thing as warmth really existed.

He thought of exercise as a means to start his sluggish blood circulating faster; he even made an effort to put the thought into execution by shaking his arms and stamping his feet. But he felt too far gone to keep up the exertion. His head slumped against the mounting of the searchlight.

Some minutes later, a throbbing radiance caused him to look up. At one of the spy windows was a creature different from the sea people. Its body was flat, and as pallid as a mushroom.

It was shaped curiously like an oak leaf with curled edges. Its mouth was a slit at the anterior extremity of its queer form. On either side of it were pulsing gill openings, and above were beady eyes supported on stalky members. From the thin edges of the creature's body, long, slender filaments projected, glinting like new-drawn copper wire. And the flesh of the thing glowed intermittently like a firefly.

After several seconds this phenomenon ceased, and another far more startling one took its place. The creature turned its dorsal surface toward the window.

Then it was as though some invisible hand and brush were printing a message in letters of fire on the pallid hide of the monster. They were old, familiar letters spelling out English words. One by one they appeared, traced with swift and practiced accuracy until the message was complete:

I am far away, man; but I am coming. I wish to write with you. Do not die yet. Wait until I arrive.

THE STUDENT

If Clifford Rodney had been himself, his consternation at this odd note and the outlandish means of its transmission would have

been greater, and his analysis of the phenomena involved would have been more keen. As matters were, he was still able to discern the shadows of the causes underlying the enigma.

This was the subsea version of wireless. He was too tired to construct a theory of its principle; he only glanced at the fine filaments projecting from the body of the creature that had served as an agent of the miracle, and dismissed the vague germ of an idea that had oozed unbidden into his sluggish mind.

Even though this was a science completely inhuman, still it was self-evident that there were logical explanations. At present Cliff didn't care particularly whether he ever learned them. Nor did he ponder for long the riddle of how this distant spokesman of the ovoids was able to write English. Somewhere there must be a simple answer.

However, the wording of the message, strikingly demonstrating the broad physical and psychological differences between his kind and the unknowns, won somewhat more attention from him. It was "I wish to write with you," instead of "I wish to speak with you." The ovoid tympanums, vibrating in water, could not produce or convey to him the sounds of human speech.

"Do not die yet. Wait until I arrive." Did those two simple commands express naive brutality or—Cliff scarcely knew how to think the thought. No human being would have expressed an idea of that sort with such guileless frankness. The meaning, of course, was perfectly clear; and Cliff knew that he had been afforded a glimpse into a mind differing radically from those of men.

"The Student." That at least had a familiar aspect. Because of the way the message was signed, the anger and depression which it aroused in him subsided.

The lettering vanished from the flat back of the creature which had been the means of conveying to Cliff Rodney the first expression of subsea thought. Another fire-traced message appeared, letter by letter:

> **We have waited too long for the arrival of one of you, man. We must learn more about your kind before you die. All in our power has been done for you. If you require more, perhaps it is beyond the small sealed exit. Unseal it. Live until I come.**
>
> **THE STUDENT**

Rodney cursed and shook his fist feebly at the messenger. Nevertheless, hope gave him fresh energy. He proceeded to obey the suggestion. Returning to the submarine he procured a heavy knife, extinguished the search beam for economy, and came forth again to attack the smaller door.

The cement here was thoroughly hard, glassy; but tough and elastic rather than brittle. Cliff worked at it fiercely, digging out the gummy stuff with the point of his knife. For a time it seemed that the stubborn block would never yield; but at length, when his expiring energies were all but burned up, and little specks of blackness flitted before his vision, success came.

The plug of amorphous material toppled from the opening and thudded resoundingly to the floor. For a minute young Rodney lay exhausted beside it, a rustle in his ears that he knew was not the distant whisper of the ocean.

Then, rested a bit, he crept through the opening. He was too dazed to be very conscious of the things around him. The character of the chamber was much the same as that of the one he had just quitted, except that it was larger, and the floor was a much more elongated oval. It had the same kind of pearly, phosphorescent dome equipped with spy windows.

Even now the windows were being occupied by the grotesque forms of the sea people, eager to observe the fresh reactions of their strange captive. The air, though, was drier, for the place had not recently been flooded, and it was musty with the odor of ancient decay, like that of a tomb.

The floor was piled high with a numerous assortment of things —every one of them of human origin. Cliff let his eyes wander over the array. There were a generator, part of a ship's turbine, several life preservers, a fire extinguisher, books, tattered and pulped by sea water and pressure, rugs, and so forth. There were even two human figures.

They were propped up on a dilapidated divan, and were fully clothed. Whoever had placed them there had apparently made some attempt to arrange them naturally.

Cliff Rodney came closer to examine them. One had been a man, the other a woman. Their flesh was gone, their faces were only skeleton masks. The woman’s dress had once been white and beautiful, but it was just a mottled, gray rag now. Yet, the diamond pendant at her throat still gleamed as brightly as ever. The pair

clutched each other with a fierceness that was still apparent. Perhaps they had died in each other's arms like that long ago. A grim tragedy of the Atlantic—

Rodney's reactions were not quite normal. He felt sick. "Damn museum!" he grumbled in a sort of inane disgust. "Damn stinky museum of Davy Jones!" He choked and sneezed.

The haze of his numbed faculties was not so dense that it obscured the animal urge to seek comfort, however. He picked up a heavy rug which, though rotted and odorous, was fairly dry.

He stripped off his soaked garments, and wrapped himself in the rug. Tearing up a book and heaping the fragments into a pile with the intention of making a fire, was quite natural and automatic. So was locating his cigarette lighter and attempting to make it work. Here, though, he struck a snag. Sparks flew, but the wick was too wet to burn.

Out of his angry chagrin an inspiration was born. He unscrewed the cap from the fuel container, poured a few drops of benzine onto the paper, and applied the sparks direct. The tinder flared up merrily, and grotesque shadows leaped about the walls of the eerie chamber. Delighted, Cliff huddled down beside the blaze, absorbing its welcome heat.

Only once did he glance at the ovoids watching him. He could not have guessed what wonder his activities provoked in the minds of those strange people of the depths.

"Go to hell!" he called to them in dismissal.

The air didn't smell so bad with the smoke in it. As the embers began to die, Clifford Rodney drew the carpet tighter about him and sprawled on the pavement. Worn out, he was quickly asleep.

III

Through the gloom of the bottoms, seven slim shapes were speeding. They were neither crustaceans nor sharklike elasmobranchs; they bore some of the characteristics of both.

Their bodies were protected by horny armor, and were tapered in such a manner as to suggest the lines of a torpedo, a comparison that was heightened by the waspish air of concentrated power about them. Rows of flippers along their flanks churned the dark water, sending them swiftly on their way. Folded carefully against their bellies were pairs of huge claws resembling the pincers of a

crawfish, though much larger. Projecting like swollen cheeks on either side of their heads were protuberances of modified muscle—their most effective weapons.

These monstrous creations were not entirely the product of nature. The knowledge of a gifted people working on their kind for ages had achieved a miracle, making of them efficient, dependable fighting machines.

They swam in a military formation. The largest individual of the group formed its center. Above, below, ahead, behind, and one either side—one in each position —the others swam. There was a reason. Every now and then schools of small, devil-fanged fish would glide out of the darkness to attack the cavalcade. The nearest members of the escort would leap to meet them.

For an instant, many fierce little teeth would try to penetrate the tough shells of the fighters. Then the latter would strike back, invisibly, except for a momentary flicker of lavender sparks around their snouts. The attacking fish would stiffen and go drifting limply into the darkness again, dead or stunned.

The fighters were protecting their master, he who had named himself “The Student.” He rode the central individual of the formation, suckerlike cups on the ventral surface of his body, clinging to its back. He had flattened himself against his mount to minimize the surge of water that swept past him. His eyes peered ahead with an expectant glitter.

He changed position only to trace queer symbols, with a goad of glassy material, on the flesh of the fragile messenger that clung beside him, and to scan the phosphorescent replies to his queries, that came in return. But within him, dread and eagerness were mingled. He had received the call that he had both hoped for and feared. And he was responding.

Out of the murk and ooze that blanketed the sea floor ahead, an emerald glow arose like some infernal dawn. The cavalcade continued to speed on its way, and the radiance brightened.

A broad depression in the bottom emerged from the fog of suspended mud, gray like tarnished silver. Above it swarmed myriads of minute, luminous animals, forming an immense canopy of green light, limned against the blackness of the depths. That canopy looked as though it had been placed there for a purpose.

To paint the scene beneath, would have challenged the genius of Gustave Dore. It was as abhorrent as the visions of a mad demon;

still it possessed elements of majesty and beauty.

A city was there in the hollow—a city or a colony. The seven fighters were moving close above it now. The valley was pitted by countless small openings, arranged edge to edge after the fashion of the cells of a honey-comb. Into them and from them, ovoids swam, going about whatever business was theirs. Here and there, queer structures of a pearly, translucent material reared twisted spires that seemed to wriggle with the motion of the water.

Monsters were everywhere, vague in the shifting shadows. Scores of types were represented, each type seemingly stranger than its associates. All of the monsters were busy, guided in their activities by alert ovoids that hung in the water, goads poised, flippers stirring idly.

Some of the monsters wallowed in the muck, digging with broad, spatulate members. Wormlike in form, pallid and smooth, one knew that their purpose in life was to dig, and nothing else.

Others kneaded their bloated, shapeless bodies, forming elfin creations around them, seemingly from their own substance. Some fanned the water with long, flattened limbs, perhaps performing a function akin to ventilation. Others —they were fighters like The Student's escort—guarded the colony, swimming steadily back and forth.

And so it went. Each of the horrors followed the vocation for which it was intended. Each was a robot, a machine of living flesh, capable of some special function.

A man would have been held spellbound by this teeming, alien activity; but The Student scarcely noticed it at all. Everything—the lights, the motion, the whispering, slithering sounds that found their way to his auditory organs —held the familiarity of life-long experience, of home.

His gaze, though, wandered intently across the valley to the place where the gutted hull of an ocean liner sprawled half over on its side, its form almost obscured by the dusky murk of the depths.

Slim ribbons that had the appearance of vegetation streamed up from it, waving like banners. They were not vegetation, though they were alive. There were no plants here, away from the sunshine; and the fauna of this world was dependent for its sustenance upon organic debris settling from above, where there was sunlight, where chlorophyll could act, and where both fauna and flora could exist.

Always the wrecks of upper-world ships had interested The Student, as something from another planet would interest us. He had rummaged through their slimy interiors, examining and exploring this and that.

Of all their wondrous contents, books had fascinated him the most. With a zeal and care and love that an archeologist would understand, he had made copies of those fragile, water-soaked storehouses of knowledge, tracing the still legible parts of them on a parchment that could withstand the action of the sea.

He had studied the queer symbol groups they bore; he had discovered the value of the dictionary. And as the Rosetta Stone had been the key to Egyptian hieroglyphics, so the dictionary had been his means of solving the riddle of mankind's literature.

There was another thing that won a brief glance from The Student, as he guided his mount and escort toward the concourse of ovoids that had collected around the structures which housed the reason for his coming.

On a low rise a circular vat, filled with living protoplasm, squatted. Above it two crudely hammered bars of iron converged together. Between their adjacent ends blue sparks purred. The apparatus was a recent development which would have startled the wise inventors who had contributed so much to another culture.

With a thrusting motion The Student hurled himself from the back of the fighter. The flippers along his sides took hold of the water with powerful sweeps. The crowd made a lane for him as he approached. Tympanic voices buzzed around him, questioning, demanding; yet, he paid no heed.

IV

The Student reached a spy window in the dome, looked down. The man was there, sprawled motionless amid the relics of his civilization. A piece of ragged fabric wrapped his pallid body.

Revulsion, fear, hope, and anxiety were not beyond The Student's understanding, and he felt them all now.

Was the prisoner dead? Was all that had been promised to end in disappointment? Paradoxically The Student would have been more at ease if such were the case. There is no harm in any enemy whose vital functions have stopped. Yet The Student himself did not live for peace and security alone. The boon of existence had many

meanings.

He moved to a window in the smaller dome, and surveyed the bathyspheric submarine, marveling at the smooth, metal hull, and the precise perfection of each detail. No ovoid could fabricate such wonders.

Patiently he waited until the buzzing tympanic voice of the throng about him impinged on his sense organs, telling him that the time had arrived.

Coolly The Student returned to the window of the museum chamber. The man was awake. He stood unsteadily in the center of the floor, the rug still wrapped around him and his eyes turned upward.

Two peoples, two cultures, two backgrounds, two histories, and two points of view were face to face at last, ready for whatever might come of the meeting. The bizarre stood versus the bizarre from opposite angles. Between them the abyss was wide. Was there —could there be—any sympathy to bridge it?

It was up to The Student to open negotiations, and he did not hesitate, for he had planned well. From a pouch, which was a natural part of him, he removed a stylus of chalky material. Then, concentrating on what he had learned during his years of study, he printed a command on the pane of the window: “You made fire, man. Make it again.”

He traced the letters in reverse, so that they would appear normally to the being inside the dome.

The prisoner seemed uncertain for a brief spell; then he obeyed. Paper, a daub of liquid from what appeared to be a tiny black box, a swift movement, sparks, and finally— flame! The man held up the blazing paper for his visitor to see.

The Student watched the phenomenon of rapid oxidation, drinking in the marvel of it until the flame was burned out. The water had washed the chalky letters from the window. He traced another message: “Fire gives you metals, machines, power—everything you have?”

If, before it had happened, Clifford Rodney had had an opportunity to construct a mental picture of what this meeting would be like, he would no doubt have expected to be amazed. But he could not have conceived beforehand an adequate idea of his own wonder. Tangible truth was so much more startling than a bare thought could be.

Here was a thing which bore many of the outward characteristics of the marine animals with which he was acquainted—pulsing gills, stirring flippers—organs used in a medium which must ever be foreign to those forms of life that live in air and sunshine.

There was even in the visage of the thing—if visage it might be called—a deceptive look of vacuity which only the cool glitter of the great eyes denied. And yet, clutched in the being's tentacles was a crayon, with which it was writing, in English, words that displayed a considerable knowledge of human attainments!

Cliff almost forgot that he himself was a delver after hidden facts. Then his own calm purpose conquered. His sleep had refreshed him; and though he felt stiff, sore, and uncomfortable, he could still respond to the appeal of an enigma.

He looked about for some means to answer. His attention was drawn to a small area of unencumbered floor, on which a thin layer of sea sand had been deposited. With a finger he traced words in it: "Yes. Fire brought us out of the Stone Age, and kept us going since. You got it right, friend. How?"

And the swift-moving tentacles traced a reply: "I have translated books—men's books. I have read of fire. But we have never produced fire. We might produce fire from electric sparks—soon."

Rodney looked with a quizzical awe at the gleaming orbs of the ovoid. Behind them, he knew, was a brilliant brain, whose brilliance had perhaps been augmented by the very handicaps which it had faced and overcome. The truth concealed behind this intriguing statement was already dimly formulated in his mind. Now he might clear up the matter completely.

He smoothed out the sand and printed another message: "You have electricity, glass, and a kind of wireless—still, no fire. It is too wet here for fire; but how did you do it all? And you write like a man—how?"

The Student chose to answer the last question first. "I mimic the writing of men," he printed. "I must—so men understand. Glass, electricity, wireless, and other things, come from animals. Nearly everything comes from animals. We have made the animals so. We have developed the useful characteristics of the animals—great care, selection, breeding, crossbreeding—a long time—ages."

It was a confirmation of the vague theory that Cliff had

formulated. Handicapped by the impossibility of fire in their normal environment, the sea folk's advancement had followed another path. Controlled evolution was what it amounted to.

Cliff remembered what miracle men such as Luther Burbank had achieved with plants—changing them, improving them. And to a lesser extent, similar marvels had been achieved with animals. Here in the depths of the Atlantic the same science had been used for ages!

Without visible excitement Cliff traced another note in the sand: "Electricity from living flesh, from modified muscle as in the electric eel or the torpedo? Glass from— Tell me!"

And on the spy window the answer appeared: "Yes. Glass from animal—from mollusk—deposited and grown as a mollusk's shell is deposited and grown. And it is formed as we wish. Electricity from modified muscle, as in the electric eel or the torpedo. I have read of them. We have animals like them—but larger. The animals fight for us, kill with electricity. And we have—electric batteries—metal from the ships. Rods—protoplasm—"

The Student's black tentacles switched and hesitated uncertainly as he groped for words that would express his thoughts to this strange monstrosity of another realm.

But Clifford Rodney had captured enough of his meaning to make a guess. "You mean," he wrote, "that you have developed a way of producing a steady current of electricity from a form of living protoplasm? A sort of isolated electric organ with metal details and grids to draw off the power?"

"Yes."

Cliff thought it over, briefly but intensely. Such protoplasm would need only food to keep it active, and it could probably obtain food from the organic dust in the sea water around it.

"Splendid!" he printed. "And the wireless, the radio beast—tell me about it!"

The Student concentrated all his powers on the task of formulating an adequate response. Slowly, hesitantly, now, he began to trace it out; for he was thinking almost in an alien plane, working with words and ideas subtly different from his own. To make the man understand, he had to choose phrases and expressions from the books he had read.

"It is the same," he inscribed. "A characteristic developed to usefulness. Long ago we studied these animals. We discovered that

they could—communicate—through—over great distances. We increased—improved this power by— by—”

“By choosing those individuals in which the power was strongest, for breeding purposes, and in turn selecting those of their offspring and the descendants of their offspring in which the characteristics you desired to emphasize were most prominent,” Cliff prompted. “Thus the abilities of these messenger creatures were gradually improved. Right?”

“Yes. Right,” The Student printed. “Now, we make marks on the flesh of a messenger creature. The irritation produces stimuli—a sequence of stimuli through nerves of skin, through brain, through —communicating organs. Other creatures, far off, pick up the impulses. Again there is a sequence of stimuli—communicating organs, nerves of skin, luminous cells of skin. The luminous cells which—which—”

Cliff had followed the strange explanation keenly, and now his own quick analytical powers grasped the idea which The Student was trying to express.

“The result is that the luminous cells in the skin of the receiving animals, corresponding in position to the luminous cells in the skin of the transmitting animal, are stimulated so that they emit light. Thus the symbols are made visible on the hide of the receiving messenger, just as they were originally traced. Is that correct?”

“Correct,” the ovoid printed.

“There are entomologists who have suggested that certain insects have the power to communicate over distances like that,” Cliff answered, “the cockroach, for instance. Their antennae are supposed to be miniature wireless sets, or something.”

The Student did not offer to reply to this immediately, and so Rodney scratched one word in the sand. It was “Wait.” For a minute or two he was busy piling odds and ends of wreckage beneath the spy window. Then, equipped with a piece of board, and a pencil taken from his discarded clothing, he scrambled to the top.

V

For the first time, he viewed the colony of the ovoids, the green canopy of luminous organisms, the hordes of sea people, the welter of infernal activity, the protoplasmic battery sparking on its isolated

knoll, the moving shadows of robot beings, and the alert fighters that patrolled the outskirts of the city, where light and darkness met, like enemies holding each other in deadlock.

And the greatest of these miracles was this devil who called himself The Student, and who had now backed off in revulsion at Cliffs approach.

But there were matters still to be investigated more closely. Dimly visible against the outer walls of the dome was a great shapeless mass that expanded and contracted as if it were breathing. Above the thing, and projecting from the dome like a canopy, was a curious curved shell of pearly, vitreous material.

His deductive faculties keyed up, Cliff was almost certain that he understood the function of the arrangement. With his pencil he traced two questions on the board he held: “You know chemistry, physics, what oxygen and nitrogen are?”

“Yes. I have learned from research. I have learned from men’s books,” The Student replied, conquering his revulsion.

“You know that the air bladders of fish are filled with a mixture of oxygen and nitrogen?” Cliff asked. “You know that these gases are derived from the blood through the capillaries that line the air bladders, and that this oxygen and nitrogen is drawn originally from the oxygen and nitrogen dissolved in the sea water, by means of the gills?”

“Yes.” "

“Then,” Rodney went on, “the air in this place comes from animals too! That creature out there under that roof arrangement—it has gills which take the gases from the sea water and deliver them into the blood stream.

“Part of the oxygen is used to keep the creature alive, of course; but another part of it, together with the nitrogen, is discharged through the walls of capillaries as an actual, free gas, just as a portion of the oxygen and nitrogen in the blood of a fish is discharged into its hydrostatic organ or air bladder! The roof arrangement probably collects it in some way, and delivers it here to me!”

“That is correct,” The Student printed. “Several animals work to give you air. Something new—ages to produce.”

“Ages all right,” Cliff breathed fervently. “I can well believe it!” He had spoken aloud.

But he was not finished yet. His face was flushed with

eagerness, and his pulses were pounding. He had another question to print: “How is the water kept out of here? Nothing of flesh could prevent it from entering when the pressure is so great.”

“There our skill failed,” The Student responded. “We used the skill of men. We made pumps from parts of ships, and from materials which were our own. Air is pumped into the domes and from the domes—and water, when necessary.”

The black tendrils withdrew from the window. Transparent lids flickered over the ovoid’s great eyes. The transparent body swayed languorously, reminding Cliff of the first sting ray he had seen in an aquarium when he was a child.

It was clear at last, this alien science. Low down beyond the window, and against the shell of the dome, he glimpsed vague motion, where a monster toiled, swinging the lever of a rusty mechanism back and forth. The machine was a pump. Its operator was forcing to him the air which those other monsters produced. And beyond extended the murky, unbelievable reality of this submarine world.

“It is all glorious,” Cliff printed in tribute, “even beautiful, almost—your achievements, your ways of doing things!”

The Student’s tentacles stirred uneasily, but he made no reply.

A climax had been reached and passed. Rodney’s enthusiasm began to cool a little, leaving him to become more cognizant of his own position. He thought of people and friends that he had known, and experiences he had enjoyed. The thoughts made him feel very cold and lonely.

His pencil scratched in the silence. “What are you going to do with me?” he was demanding.

“Keep you,” was the response.

“Until I rot?”

“Until you rot.”

It was a simple statement, devoid of either malice or compassion. Yet it was loaded with a dread significance. It meant staying here in this awful place, dying of starvation, perhaps, if the icy dankness didn’t get him.

It meant death in any event; probably it meant madness. There would be ovoid eyes watching him, studying him; there would be ovoid beaks opening and closing vacuously —crazy, wonderful things everywhere, but only his submarine, and the depressing relics in the museum, familiar!

They had conversed, The Student and he. They had been almost friends. But beneath their apparently amicable attitudes toward each other had lain mistrust, broadened and deepened by the fact that they had so very little in common. Cliff saw it now.

Fury smoldered within him, but he held it in check.

He tossed aside the board, which was too covered with messages to be of any further use, and selected in its stead the pulped remnants of a book from the stack of things which supported him close to the spy window.

On one of the illegible pages he printed a note and held it up for the ovoid to see: 'I know a better way for you to learn about my mind. Why not establish friendly relations with the world above? Certainly we have many things that you could use. And you have many things that we could use."

"No!" The Student's slender, boneless limbs seemed to jerk with emphasis as they traced the word and repeated it. "No!"

"It will happen anyway," Cliff promised. "Soon my people will come in machines of steel. They will make you understand what is best."

"Men coming here will not return," The Student answered.

And Clifford Rodney, remembering his own capture, and seeing now the waspish fighters patrolling the city of the ovoids, had no reason to doubt the weight of the statement. The sea people could protect themselves in their native element.

"You fear us? You mistrust us?" Cliff wanted to know.

The response was frank: "Yes."

"There is no reason."

To this The Student offered nothing.

Cliff tried a new angle, printing swiftly: "What do you know of the place we live in, really—sun, stars, planets, day, night? You have read of such things, no doubt. Wouldn't you like to see them? They are beautiful!"

"Beautiful?" The Student questioned. "Beautiful to you. To me —to us—horrible. The sun, the great dazzling light —it is horrible— and the heat, and the emptiness of air. They make me afraid. But they are wonderful—interesting, very interesting."

Some emotion seemed to stir the nameless soul of the ovoid, making him hesitant and uncertain.

Clifford Rodney thought he glimpsed a shadow of hope. He scarcely understood why he argued; whether he had some dim idea

that he might save himself, or whether he was trying to advance the cause of mankind in its demand for expansion into alien realms.

Perhaps he was urging this queer intelligence of the deeps only because it is in the nature of any strong, healthy-minded youth to fight even the most adverse circumstance.

"You are interested, but you are afraid," he wrote. "Why don't you give your interest the chance it deserves? Why don't you—" He hesitated, not knowing quite what he wished to say. "Why don't you try to make contact with my people?"

For a flickering instant The Student paused, in a way that betrayed some hidden process within him. Then his decision seemed to come. "The world of men is the world of men," he printed. "The world of the sea is our world."

Further urgings on Cliff's part met only with flat refusal. He desisted at last, feeling oddly like a salesman, who, through a slip in technique, has lost a sale. But that comparison could not be true either. He felt that The Student's obstinancy was too deep-seated to be overcome by mere salesmanship.

Dejectedly he watched the chalky words of the ovoid's last rebuff being washed from the window by the ocean.

Then those black tendrils holding the crayon went to work once more. "You wish to escape," they printed, "it would be interesting, man, to watch you trying to escape."

Startled, Cliff wondered what bizarre mental process had given birth to these statements. Hope was resurrected.

"I cannot escape," he printed warily. "A glass port of my submarine needs repairing, for one thing. I have no materials."

"We will give you materials," was the astounding assertion.

"Eh?" the man said aloud, before he remembered that the ovoid could not hear his words, or understand them if he had been able to. "I could not get out of these domes anyway," he wrote. "It is useless."

Cliff Rodney was trying to make a subtle suggestion, in the hope that his unfathomable jailer would offer him a chance for freedom.

"Men have many tricks," The Student responded. "Watching you make use of tricks will be very interesting. We will learn much. Men have powerful explosives."

"I have no explosives!" Cliff insisted truthfully. A feeling of exasperation was rising within him.

"Men have many tricks," the ovoid repeated.

It was a tribute, nothing less; a tribute of mingled awe and mistrust, which the people of the depths felt for the people of the upper air. It was an example of other-world minds at work.

"You expect me to escape?" Cliff demanded.

"You will not escape," was the answer. "This is a test of your powers—a test of men's powers—an experiment. If you escape from the domes you shall be recaptured. We understand caution, man."

Thus Rodney's hopes were broken. But before this message had faded from the spy window, he wrote on a page of the tattered book an acceptance of the challenge: "Good! Get the materials you promised, and go to the devil!"

"Materials shall come," was the reply. "Go to the devil."

Breaking off the conversation thus, The Student wheeled in the water. His silvery fins flashed, and he vanished amid the throng of nightmare watchers.

Cliff wondered in a detached way what emotion, if any, had prompted the ovoid to repeat his angry epithet. Was it fury, amusement, some feeling beyond human conception, or just another bit of mimicry? Cliff didn't know; and because he didn't the skin at the back of his neck tightened unpleasantly.

VI

The Student was out there among his fellows, giving orders in buzzing, tympanic tones, and preparing for the test. None could see the turmoil inside his brain—fear pitted against intense eagerness and interest.

He had made no decisions yet, nor would the decisions he had in mind be sanctioned by his people. And it is certain, too, that he had no sympathy for the man who had fallen into his clutches, nor any desire to help him win his way to freedom.

Clifford Rodney did not immediately climb down from his position atop the wreckage he had piled up. Instead he remained by the window, looking out, for no particular reason. The only sound, the gentle, pulsing hiss of air being forced into his prison, had a monotonous effect that was more oppressive than absolute silence.

The weird colony wasn't so very different, though, from the cities at home, if you allowed your eyes to sort of blur out of focus; if you didn't see that sunken liner with the wispy ribbons trailing up

from it, or the twisted architecture, or the inhabitants. The moving lights made you think of gay places and of gay music and people. One corner of his mouth drew back thoughtfully.

He could see that his chance of getting out of this mess was practically nil: In the first place, he had not the ghost of an idea of how he might escape from the two domes. And if he did manage to break free from them, those armored fighters would bar his way. Their great claws would grip the submarine while they discharged their bolts of electric force. The metal hull would protect him to some extent, but not sufficiently, as he knew from experience.

More conscious than ever of the aches in his body, his loneliness and dejection, he looked down at his feet absently. Under them were books. He toed one. Its gilt title was almost obliterated, but he still could make it out— Kipling's *Barrack-Room Ballads.*

There was a friendliness in those dim, familiar words, and he chuckled a bit. Funny to think of an ovoid intellect trying to read and understand the poems in that volume— "Danny Deever," "Mandalay"! "If" was one of Kipling's works too: "If you can keep your head—"

Cliff smiled ruefully. Anyway he couldn't go wrong by attempting to improve matters a little.

He cast a final glance through the spy window. The ovoid crowd was growing thicker, anticipating activity. Behind them the fighters were gathering in the dusky shadows. In their claws some of them clutched massive bars of some material—rams, no doubt. Probably it had been one of those rams that had broken the port of his submarine.

Still garmented in the tattered carpet, he started in by setting his craft in order as best he could; straightening a warped propeller blade, draining water out of machines and instruments, and repairing those that were broken, whenever it was possible. At least, he had cloth and paper from the museum to help him mop up the wetness of everything.

The radio was a tangle, but he had hope of fixing it some way so that, by means of its beam, he could get a word up to the boys aboard the *Etruria*, on the surface. They couldn't help him, of course; they could only watch and wait.

Several hours must have passed without incident. While he worked, Cliff kept a close lookout for some sign of The Student. When it came, it was not delivered by the wizard of the deeps in

person, but through the proxy of a messenger beast. The oak-leaf body of the creature wavered before a window, and on its hide luminous words appeared: “Food is coming through an air tube. Eat.”

Cliff waited. From one of the air passages that entered the chamber, a mass of albuminous substance was blown, and it plopped to the floor. It looked like white of egg. Cliff touched a finger to it, and tasted the adhering dab.

No doubt it was from the body of some specialized marine animal. Probably it was very nourishing, and though it hardly excited Cliff’s appetite, he realized that a man might train himself to relish such fare. At present, however, he preferred the brine-soaked chocolate and other food articles that he had brought with him on his adventure.

The messenger now exhibited another message: “Cement for port of the submarine, through same tube.”

Its manner of arrival was similar to that of the food. A great lump of clear, firm jelly, probably also the product of a subsea creature.

Rodney gathered it up. As he carried it, a thin film of the substance hardened to glassy consistency on his hands, as collodion would do. He applied the jelly to the submarine’s fractured port, inside and out, pressing it as firmly as he could. It would take some time for the cement to set.

He returned his attention to the radio transmitter, but only for a moment. Out of some inner well of his consciousness, the faint shadow of an idea had appeared.

He clambered from the submarine, and with a knife proceeded to dig the cement from around the huge, glassy plug that kept out the sea, just as he had done before with the smaller plug that had sealed the entrance dome from the museum.

He worked entirely around the circular mass, loosening the adhesive substance as deeply as he could probe with his blade. No seepage of sea water appeared. The great block was intended to open outwardly. It was very thick, and beyond it, holding it shut, was the weight of the Atlantic.

But Clifford Rodney’s plan was maturing. His efforts were not entirely useless. Undoubtedly that external door was not as firmly placed as it had previously been.

Cliff felt that he might yet demonstrate his ability to get out of

the domes, though once beyond them, he could find no glimmer of reason to expect that he could elude the circle of horror that awaited him, even for a few seconds. He could only try to do his best, not so much in the expectation of escape, but to keep his energies busy.

Conscious that his every move was watched with absorbing interest by the ovoid audience at the spy windows, he rummaged in the museum, finding there some wire and strips of metal. These he brought back beside the submarine.

The drinking-water container of his craft was glass-lined.

He unfastened it from its mounting, bashed in the top, and added to its contents a small amount of acid from his batteries. Then he carried it up through the hatch and set it on the floor of the chamber.

Into the water, at opposite sides of the container, he placed upright strips of metal to act as electrodes. To each of these he fastened wires, and attached their opposite ends to the powerful storage batteries of the submarine.

Next, with paper and other refuse, he plugged the air tubes and drains of the two domes. Then he closed the switch, sending current through the apparatus he had just constructed.

There was a hiss as of a caldron boiling as the electricity went through the water in the container, splitting it up into the elemental gases that composed it. Free oxygen and hydrogen bubbled away from the electrodes, mixing with the air of the domes.

This crude process of electrolysis was only the beginning. From the museum Cliff collected all the combustible materials he could find, and carried them into the chamber of the submarine—books, wood, a few scraps of celluloid, hard rubber, and so forth. Then, with a little of the glassy cement that remained, he sealed the block that had separated the two domes, back into place.

There was another matter. For a few seconds it puzzled him, but finally a solution came. With wrenches he unbolted the heavy glass lens of the submarine's searchlight. Carefully he tapped the incandescent blub beneath, breaking it, but leaving the delicate tungsten filaments undamaged. Against them he placed a wad of paper, daubed with the remaining benzine of his cigarette lighter.

So far, so good. He investigated the electrolysis apparatus again, shutting off the current for a moment while he scraped away the interfering bubbles that had collected on the crude electrodes.

Satisfied that his preparations were as complete as they could be made for the present, he shut himself inside the submarine and continued to work on the radio. After perhaps an hour of fussing and tampering, he believed that he might get a code message up to the *Etruria.*

He was almost ready, but there was one thing more. Aboard the craft there were ten flasks of compressed oxygen. Opening the valves of nine of these, he tossed them through the hatch, retaining only one for breathing purposes.

While their contents soughed away he disconnected the electrolysis wires and closed the heavy steel door over his head. Working the key of the radio, he flashed out his appeal:

Rodney calling S.S. *Etruria* . . . Rodney calling S.S.

Etruria . . . Captured by deep-sea creatures . . . Trying to escape . . . Get position and stand by to help.

He repeated the communication several times. If it was received, it would be simple for his confreres to calculate his position from the direction the waves came in. They'd be waiting to pick him up. He even chuckled ruefully at the thought.

Through the ports he could see that the ovoids had moved back from the spy windows of the dome, anticipating danger; but their forms, and the forms of their fighters, still hovered tensely in the luminescent haze of the ocean bed. He could not see many from his unfavorable position, but doubtless they were above and all around the dome, waiting for him to make a move!

VII

Cliff forced himself to forget these unnerving thoughts. His hand touched the searchlight switch. His face was grim as he directed his gaze through another port toward the great, circular block that kept out the sea.

"Any one of three things can happen." he muttered: "The force can be insufficient, in which case what I have done won't accomplish anything at all—1*11 still be locked in this dome. Or it can be too great, forcing out that plug all at once and letting the water in here all at once, to smash this steel coffin—all at once. Or it can be just right, admitting the ocean gradually enough so that this old tub can stand the strain."

Even the stout steel hull couldn't withstand the sudden thrust

of the pressure of the deeps, he knew. Its position would be something like that of a nut under the blow of a hammer.

Cliff didn't want to give himself time to think. He closed the switch. Almost immediately there was a flash of red. as the hot filaments of the searchlight ignited the benzine-soaked paper that was in contact with them.

The flame spread through the dome in a wave of orange, as the hydrogen in the air burned. The sound which penetrated the thick shell of the craft was not the concussion of an explosion. Rather, it was a whispering, soughing roar: for the weight of the sea without was too vast for this feeble beginning of chemical forces to combat.

However, the reserves now came into action. Immersed in a highly oxygenated atmosphere under pressure, the paraphernalia from the museum took fire. and. though damp, rapidly became a inferno of incandescence that threw off enormous volumes of gas. expanding irresistibly with heat.

His heart thumping. Rodney kept his eyes glued to the great block which he hoped to dislodge. Stubbornly it continued to stand its ground, unmoved. He gritted his teeth as if, by sheer force of will, he sought to move the insensate thing that barred his way.

Moments passed. There was a snap like a muffled rifle shot. The block jerked, shuddered. Around its rim a curtain of glass appeared—no—not glass—water, screaming like a concourse of mad devils. The flood rolled over the floor, found the fire, and burst into steam, the pressure of which added to the titanic forces combatting the titanic weight of the deeps.

More moments—the chamber was half full of water. Then, with a sort of majestic resignation, the plug yielded, folding outward like a dying colossus. The ocean was in then, swiftly—so swiftly that a living eye could not capture its movements. The thud of it was heavier than a clap of thunder.

The submarine bobbed in the maelstrom like a bit of flotsam. But its hull held, even though it was flung repeatedly against the walls of the dome.

A minute went by before Clifford Rodney was able to do anything. He picked himself up from the place where he had been hurled, and scrambled to the controls. He could see the opening which led from his prison. The motors throbbed and the submarine turned, heading through the still surging water.

It did get clear of the dome. Cliff almost thought he had a

chance. Maybe the confusion produced in the vicinity by the suction when the sea had entered the dome, had unnerved the ovoids momentarily.

He set the vertical screws spinning. Their lift wasn't very good. They had been damaged again. It was hardly remarkable after the way the little ship had been bounced around.

Cliff looked up through a ceiling port. Six fighters were pouncing down upon him, their hinged claws spread wide, their long, armored forms ghostly in the shadows. Others were approaching from all directions, accompanied by a horde of ovoids.

A seventh had joined the six now. Rodney had not seen it dart up from the deep muck of the bottoms, where it had lain, hidden even to the people of the depths. It bore a strange, glassy object of considerable size. Without much attention the man wondered what it might be.

"All right," he muttered, "you win! I hope you enjoyed the show!"

The fighters were upon him. He could hear the scrape of their claws against metal. Clouds of black stuff, like the ink of a squid, surrounded the submarine, hiding everything from view. He was still rising, though—rather rapidly, he thought. In a moment the electric bolts would stun him.

Upward and upward he went. Cliff began to be puzzled. He detected scraping noises that he could not interpret. He must have advanced half a mile toward the surface since the start. It was all very odd.

There was a jolt. The climb became halting and erratic. The motors labored doggedly.

The water cleared. Cliff could make out schools of phosphorescent fish, hanging in the darkness like scattered galaxies. He was alone, far above the bottoms. There were no fighters around him, though he thought he glimpsed dim shapes vanishing beneath. They could not endure the reduced pressure that existed here.

Matters were better, far better, than he had dared to expect—mysteriously so. Now if the vertical screws continued to function at all— The submarine appeared to be badly damaged. It seemed clumsy, heavy.

Cliff came into a region of deep bluish light, beautiful as some fairy-peopled realm of infinity. Not long thereafter the bathyspheric craft broke through the sunlighted surface of the Atlantic. Cliff

opened the valves of a pressure tank, inflating the bellows-like water wings which supported the heavy submarine when it was on the surface.

How had this all happened? There was still the mystery. He almost forgot that he must gradually reduce the pressure around him, to avoid the "bends."

At length he opened the hatch and crawled out onto the rounded top of the undersea boat. An egg-shaped object was fastened to the metal shell just behind the hatch. Rodney approached it, unable yet to fathom its nature. Glassy cement, like that with which he had recently become acquainted, held the thing in place.

It was a massive object, six feet through at its greatest diameter. It was made of the same material as the domes, except that this substance was darker, perhaps to shield what it covered from the fierce sun.

Rodney peered into the semitransparent depths of the object, discerning there a huddled form enveloped in a milky, semiliquid film. The form was delicate; vital organs pulsed visibly beneath its skin. It had flippers, and masses of black tendrils. Its beaked mouth opened and closed, giving it an air of vacuous solemnity, but its eyes were keen. Its tentacles clutched a white crayon. It was The Student!

Clifford Rodney's mind was a whirl as he sought to solve the riddle. Then, since no other means of printing a message was available, he traced words with a finger on the wet surface of the oval object:

"You helped me—how?"

The Student's tendrils trembled as he printed the answer on the inside of his protecting shell: "I helped you. The six fighters, and the seventh, were mine. They did not attack you. Concealed by the liquid that darkens the sea, they raised your submarine upward.

"They attached me to the submarine. They raised it as far as they could climb. It was a trick to outwit my people. They forbid traffic with the upper world. They are afraid. I was afraid, but at last I chose. While you prepared for the test an idea came. I used it, outwitting my people. I am afraid. But I am glad."

Rodney was lost in the fantastic wonder of it all. "Thank you, my friend!" he printed.

The Student plied his crayon again: "Friend? No. I am not your

friend. What I did, I did for myself."

"Then why in reason's name are you here?" Cliff printed. "Men will put you in an aquarium, and stare at and study you!"

"Good," was the response, "I am glad. Men study me. I study them. Good. That is why I came: to see the accomplishments of men, to see the stars, to see the planets. Now I see the sun and sky —dreadful but interesting—very interesting. Good."

"Good if you don't smother before you can be transferred to a suitable aquarium," Rodney traced.

"I am safe here," the ovoid answered with a nervous flurry of tendrils. "The pressure is normal. There is much oxygen in the fluid which surrounds me. But do what you must, man. I am waiting."

Cliff was accustomed enough to the situation by now to grin down at the great dark egg. Mixed with his awe there was a curious inner warmth. Man and ovoid were different in form and mind; perhaps real sympathy between them was impossible. But Cliff had found a tangible similarity.

In this sullen devil of the depths, eagerness to know the unknown had battled fear, and had won. The Student had placed himself, without defense, in the power of the unknown. It took guts to do that, courage—

Young Rodney thought of many things as he looked out over the water in search of signs of rescue. A ship was approaching. It was near enough so that he could recognize it as the *Etruria*.

"The boys'll probably call you Davy Jones' ambassador or something," he said banteringly, addressing the ovoid. "I hope you're sport enough to take it, old socks!"

But The Student wouldn't have listened even if he were able. His eyes were drinking in the miracle of the approaching ship.

ROCK DIVER

Harry Harrison

Of all the strange terrestrial environments explored in this collection, the one we visit in this story must be the strangest: the heart of the earth, the sealed interior of the planet, a place more remote, more inaccessible, than the dark reaches of space or the deepest trenches of the ocean. Harry Harrison, the veteran writer and editor who takes us on this eerie trip, is the author of such books as Death-world, The Technicolor Time Machine, *and* Make Room! Make Room!*—the novel on which the movie* Soylent Green *was based.* "Rock Diver," *published more than a quarter of a century ago, was his first science-fiction story.*

The wind hurtled over the crest of the ridge and rushed down the slope in an icy torrent. It tore at Pete's canvas suit, pelting him with steel-hard particles of ice. Head down, he fought against it as he worked his way uphill towards the granite outcropping.

He was freezing to death. A man can't wear enough clothes to stay alive in fifty degrees below zero. Pete could feel the numbness creeping up his arms. When he wiped his frozen breath from his whiskers there was no sensation. His skin was white and shiny wherever it was exposed to the Alaskan air.

"All in a day's work." His cracked lips painfully shaped themselves into the ghost of a smile. "If any of those claimjumping scissorbills followed me this far they're gonna be awful cold before they get back."

The outcropping sheltered him as he fumbled for the switch at his side. A shrill whine built up in the steel box slung at his belt. The sudden hiss of released oxygen was cut off as he snapped shut the faceplate of his helmet. Pete clambered onto the granite ridge that pushed up through the frozen ground.

He stood straight against the wind now, not feeling its pressure, the phantom snowflakes swirling through his body. Following the outcropping, he slowly walked into the ground. The top of his helmet bobbed for a second like a bottle in water, then sank below the surface of the snow.

Underground it was warmer, the wind and cold left far behind; Pete stopped and shook the snow from his suit. He carefully unhooked the ultra-light from his pack and switched it on. The light beam, polarized to his own mass-penetrating frequency, reached out through the layers of surrounding earth as if they were cloudy gelatine.

Pete had been a rock diver for eleven years, but the sight of this incredible environment never ceased to amaze him. He took the miracle of his vibratory penetrator, the rock diver's "walk-through," for granted. It was just a gadget, a good gadget, but something he could take apart and fix if he had to. The important thing was what it did to the world around him.

The hogback of granite started at his feet and sank down into a murky sea of red fog. It was a fog composed of the lighter limestone and other rock, sweeping away in frozen layers. Seemingly suspended in mid-air were granite boulders and rocks of all sizes, caught in the strata of lighter materials. He ducked his head carefully to avoid these.

If his preliminary survey was right, this rocky ridge should lead him to the site of the missing lode. He had been following leads and drifts for over a year now, closing in on what he hoped was the source of the smaller veins.

He trudged downward, leaning forward as he pushed his way through the soupy limestone. It rushed through and around him like a strong current of water. It was getting harder every day to push through the stuff. The piezoelectric crystal of his walk-through was getting farther away from the optimum frequency every day. It took a hard push to get the atoms of his body between those of the surrounding matter. He twisted his head around and blinked to focus his eyes on the two-inch oscilloscope screen set inside his helmet. The little green face smiled at him—the jagged wave-pattern gleaming like a row of broken teeth. His jaw clenched at the variations between the reading and the true pattern etched onto the surface of the tube. If the crystal failed, the entire circuit was inoperative, and frozen death waited quietly in the air far above him for the day he couldn't go under. Or he might be underground, when the crystal collapsed. Death was here, too, a quicker and much more spectacular death that would leave him stuck forever like a fly in amber. A fly that is part of the amber. He thought about the way Soft-Head had got his and shuddered slightly.

Soft-Head Samuels had been one of the old gang, the hard-bitten rock divers who had been the first to uncover the mineral wealth under the eternal Alaskan snows. SoftHead had slipped off a hogback two hundred meters down, and literally fallen face first into the fabulous White Owl mother lode. That was the strike that started the rush of ’63. As the money-hungry hordes rushed north to Dawson he had strolled south with a fortune. He came back in three years with no more than his plane fare and a measureless distrust of humanity.

He rejoined the little group around the pot-bellied stove, content just to sit among his old cronies. He didn’t talk about his trip to the outside and no one asked any questions. The only sign that he had been away was the way he clamped down on his cigar whenever a stranger came into the room. North American Mining grubstaked him to a new outfit and he went back to tramping the underground wastes.

One day he walked into the ground and never came up again. “Got stuck,” they muttered, but they didn’t know just where until Peter walked through him in ’71.

Pete remembered it, too well. He had been dog-tired and sleepy when he had walked through that hunk of rock that hadn’t been all rock. Soft-Head was standing there— trapped for eternity in the stone. His face was horror-stricken as he stood half bent over, grabbing at his switch box. For one horrible instant Soft-Head must have known that something was wrong with his walk-through— then the rock had closed in. He had been standing there for seven years in the same position he would occupy for all eternity, the atoms of his body mixed inextricably with the atoms of the surrounding rock.

Peter cursed under his breath. If he didn’t get enough of a strike pretty soon to buy a new crystal, he would become part of that timeless gallery of lost prospectors. His power pack was shot and his oxygen tank leaked. His beat-up Miller sub-suit belonged in a museum, not on active duty. It was patched like an inner tube and still wouldn’t hold air the way it should. All he needed was one strike, one *little* strike.

His helmet light picked a blue glint from some crystals in the gulley wall. It might be Ytt. He leaped off the granite spine he had been following and sank slowly through the lighter rock. Plugging his hand neutralizer into the socket in his belt, he lifted out a foot-

thick section of rock. The shining rod of the neutralizer adjusted the vibration plane of the sample to the same frequency as his own. Pete pressed the mouth-shaped opening of the spectro-analyzer to the boulder and pressed the trigger. The brief, intensely hot atomic flame blazed against the hard surface, vaporizing it instantly.

The flim transparency popped out of the analyzer and Pete studied the spectrographic lines intently. Wrong again; no trace of the familiar Yttrotantalite lines. With an angry motion he stowed the test equipment in his pack and ploughed on through the gummy rock.

Yttrotantalite was the ore and tantalum was the metal extracted from it. This rare metal was the main ingredient of the delicate piezoelectric crystals that made the vibratory mass penetrator possible. Ytt made tantalum, tantalum made crystals, crystals operated the walk-through that he used to find more Ytt to make ... It was just like a squirrel cage, and Pete was the squirrel, a very unhappy animal at the present moment.

Pete carefully turned the rheostat knob on the walkthrough, feeding a trifle more power into the circuit. It would be hard on the crystal, but he needed it to enable him to push through the jelly-like earth.

His thoughts kept returning to that little crystal that meant his life. It was a thin wafer of what looked like dirty glass, ground and polished to the most exacting tolerances. When subjected to an almost microscopic current, it vibrated at exactly the correct frequency that allowed one mass to slide between the molecules of another. This weak signal in turn controlled the much more powerful circuit that enabled himself and all his equipment to move through the earth. If the crystal failed, the atoms of his body would return to the vibratory plane of the normal world and alloy themselves with the earth atoms through which he was moving. . . . Pete shook his head as if to clear away the offending thoughts and quickened his pace down the slope.

He had been pushing against the resisting rock for three hours now and his leg-muscles felt like hot pokers. In a few minutes he would have to turn back, if he wanted to leave himself a margin of safety. But he had been getting Ytt traces for an hour now, and they seemed to be getting stronger as he followed the probable course of the drift. The mother lode had to be a rich one—if he could only find it!

It was time to start the long uphill return. Pete jerked a rock for a last test. He'd mark the spot and take up the search tomorrow. The test bulb flashed and he held the transparency against it.

His body tensed and his heart began to thud heavily. He blinked and looked again—it was there! The tantalum lines burned through the weaker traces with a harsh brilliance. His hand was shaking as he jerked open his knee pocket. He had a comparison film from the White Owl claim, the richest in the territory. There wasn't the slightest doubt— his was the richer ore!

He took the half-crystals out of their cushioned pouch and gently placed the B crystal in the hole he had made when he removed the sample rock. No one else could ever find this spot without the other half of the same crystal, ground accurately to a single ultra-shortwave frequency. If half A was used to key the frequency of a signal generator, side B bounced back an echo of the same wave-length that would be picked up by a delicate receiver. In this way the crystal both marked the claim and enabled Pete to find his way back to it.

He carefully stowed the A crystal in its cushioned compartment and started the long trek back to the surface. Walking was almost impossible; the old crystal in his walkthrough was deviating so far that he could scarcely push through the gluey earth. He could feel the imponderable mass of the half-mile of rock over his head, waiting to imprison him in its eternal grip. The only way to the surface was to follow the long hogback of granite until it finally cleared the surface.

The crystal had been in continuous use now for over five hours. If he could only turn it off for a while, the whole unit would have a chance to cool down. His hand shook as he fumbled with his pack straps—he forced himself to slow down and do the job properly.

He turned the hand neutralizer to full power and held the glowing rod at arm's length before him. Out of the haze there suddenly materialized an eighteen-foot boulder of limestone, adjusted now to his own penetrating frequency. Gravity gripped the gigantic rock and it slowly sank. When it had cleared the level of the granite ledge, he turned off the neutralizer. There was a heavy crunch as the molecules of the boulder welded themselves firmly to those of the surrounding rock. Pete stepped into the artificial bubble he had formed in the rock and turned off his walk-through.

With a suddenness that never ceased to amaze him, his hazy

surroundings became solid walls of rock. His helmet light splashed off the sides of the little chamber, a bubble with no exit, one-half mile below the freezing Alaskan wastes.

With a grunt of relief, Pete slipped out of his heavy pack and stretched his aching muscles. He had to conserve oxygen; that was the reason he had picked this particular spot. His artificial cave cut through a vein of RbO, rubidium oxide. It was a cheap and plentiful mineral, not worth mining this far north, but still the rock diver's best friend.

Pete rummaged in the pack for the airmaker and fastened its power pack to his belt. He thumbed the unit on and plunged the contact points into the RbO vein. The silent flash illuminating the chamber glinted on the white snow that was beginning to fall. The flakes of oxygen released by the airmaker melted before they touched the floor. The underground room was getting a life-giving atmosphere of its own. With air around him, he could open his faceplate and get some chow out of his pack.

He cautiously cracked the helmet valve and sniffed. The air was good, although pressure was low—around twelve pounds. The oxygen concentration was a little too high; he giggled happily with a mild oxygen jag. Pete hummed tunelessly as he tore the cardboard wrapper from a ration pack.

Cool water from the canteen washed down the tasteless hardtack, but he smiled, thinking of thick, juicy steaks. The claim would be assayed and mine owners' eyes would bulge when they read the report. Then they would come to *him.* Dignified, sincere men clutching contracts in their well-manicured hands. He would sell to the highest bidder, the entire claim; let someone else do all the work for a change. They would level and surface this granite ridge and big pressure trucks would plow through the earth, bringing miners to and from the underground diggings. He relaxed against the curved wall of the bubble, smiling. He could see himself, bathed, shaven and manicured, walking into the Miners' Rest. . . .

The daydream vanished as two men in bulging sub-suits stepped through the rock wall. Their figures were transparent; their feet sank into the ground with each step. Both men suddenly jumped into the air; at mid-arc they switched off their walk-throughs. The figures gained solidity and landed heavily on the floor. They opened their faceplates and sniffed the air.

The shorter man smiled. "It sure smells nice in here, right,

Mo?”

Mo was having trouble getting his helmet off; his voice rumbled out through the folds of cloth. “Right, Algie.” The helmet came free with a snap.

Pete’s eyes widened at the sight, and Algie smiled a humorless grin. “Mo ain’t much to look at, but you could learn to like him.”

Mo was a giant, seven feet from his boots to the crown of his bullet-shaped head, shaved smooth and glistening with sweat. He must have been born ugly, and Time had not improved him. His nose was flattened, one ear was little more than a rag, and a thick mass of white scar-tissue drew up his upper lip. Two yellow teeth gleamed through the opening.

Pete slowly closed his canteen and stowed it in the pack. They might be honest rock divers, but they didn’t look it. “Anything I can do for you guys?” he asked.

“No, thanks, pal,” said the short one, “we was just going by and saw the flash of your airmaker. We thought maybe it was one of our pals, so we come over to see. Rock diving sure is a lousy racket these days, ain’t it?” As he talked, the little man’s eyes flicked casually around the room, taking in everything. With a wheeze, Mo sat down against the wall.

“You’re right,” said Pete carefully. “I haven’t had a strike in months. You guys newcomers? I don’t think I’ve seen you around the camp.”

Algie did not reply. He was staring intently at Pete’s bulging sample case.

He snapped open a huge clasp knife. “What you got in the sample case, Mac?”

“Just some low-grade ore I picked up. Going to have it assayed, but I doubt if it’s even worth carrying. I’ll show you.”

Pete stood up and walked toward the case. As he passed in front of Algie, he bent swiftly, grabbed the knife hand and jabbed his knee viciously into the short man’s stomach. Algie jackknifed and Pete chopped his neck sharply with the edge of his palm. He didn’t wait to see him fall but dived towards the pack.

He pulled his Army .45 with one hand and scooped out the signal crystal with the other, raising his steel-shod boot to stamp the crystal to powder.

His heel never came down. A gigantic fist gripped his ankle, stopping Pete's whole bulk in midair. He tried to bring the gun

around, but a hand as large as a ham clutched his wrist. He screamed as the bones grated together. The automatic dropped from his nerveless fingers.

He hung head down for five minutes while Mo pleaded with the unconscious Algie to tell him what to do. Algie regain consciousness and sat up cursing and rubbing his neck. He told Mo what to do and sat there smiling until Pete lost consciousness.

Slap-slap, slap-slap; his head rocked back and forth in time to the blows. He couldn't stop them, they jarred his head, shook his entire body. From very far away he heard Algie's voice.

"That's enough. Mo, that's *enough*. He's coming around now."

Pete braced himself painfully against the wall and wiped the blood out of his eyes. The short man's face swam into his vision.

"Mac, you're giving too much trouble. We're going to take your crystal and find your strike, and if it's as good as the samples you got there, I'm going to be very happy and celebrate by killing you real slow. If we don't find it, you get killed *slower*. You get yours either way. Nobody *ever* hits Algie, don't you know that?"

They turned on Pete's walk-through and half carried, half dragged him through the wall. About twenty feet away they emerged in another artificial bubble, much larger than his own. It was almost filled by the metallic bulk of an atomic tractor.

Mo pushed him to the floor and kicked his walk-through into a useless ruin. The giant stepped over Pete's body and lumbered across the room. As he swung himself aboard the tractor, Algie switched on the large walk-through unit. Pete saw Algie's mouth open with silent laughter as the ghostly machine lurched forward and drove into the wall.

Pete turned and pawed through the crushed remains of his walk-through. Completely useless. They had done a thorough job, and there was nothing else in this globular tomb that could help him out. His sub-rock radio was in his own bubble; with that he could call the Army base and have a patrol here in twenty minutes. But there was a little matter of twenty feet of rock between the radio and himself.

His light swung up and down the wall. That three-foot vein of RbO must be the same one that ran through his own chamber.

He grabbed his belt. The airmaker was still there! He pressed the points to the wall and watched the silver snow spring out. Pieces of rock fell loose as he worked in a circle. If the power pack

held out—and if they didn't come back too soon—

With each flash of the airmaker an inch-thick slab of rock crumbled away. The accumulators took 3.7 seconds to recharge; then the white flash would leap out and blast loose another mass of rubble. He worked furiously with his left hand to clear away the shattered rock.

Blast with the right arm—push with the left—blast and push—blast and push. He laughed and sobbed at the same time, warm tears running down his cheeks. He had forgotten the tremendous amounts of oxygen he was releasing. The walls reeled drunkenly around him.

Stopping just long enough to seal his helmet, Pete turned back to the wall of his makeshift tunnel. He blasted and struggled with the resisting rock, trying to ignore his throbbing head. He lay on his side, pushing the broken stones behind him, packing them solid with his feet.

He had left the large bubble behind and was sealed into his own tiny chamber far under the earth. He could feel the weight of a half-mile of solid rock pushing down on him, crushing the breath from his lungs. If the airmaker died now, he would lie there and rot in this hand-hewn tomb! Pete tried to push the thought from his mind—to concentrate only on blasting his way through the earth.

Time seemed to stand still as he struggled on through an eternity of effort. His arms worked like pistons while his bloody fingers scrabbled at the corroded rock.

He dropped his arms for a few precious moments while his burning lungs pumped air. The weakened rock before him crumbled and blew away with an explosive sound. The air whistled through the ragged opening. The pressure in the two chambers was equalizing—he had holed through!

He was blasting at the edges of the hole with the weakened airmaker when the legs walked up next to him. Algie's face pushed through the low rock ceiling, a ferocious scowl on its features. There was no room to materialize; all the impotent Algie could do was to shake his fist at—and through—Pete's face.

A monstrous crunching came from the loose rubble behind him; the rock fell away and Mo pushed through. Pete couldn't turn to fight, but he landed one shoe on the giant's shapeless nose before monster hands clutched his ankles.

He was dragged through the rocky tube like a child, hauled

back to the bigger cavern. When Mo dropped him he just slid to the floor and lay there gasping. ... He had been so close.

Algie bent over him. “You’re too smart, Mac. I’m going to shoot you now, so you don’t give me no more trouble.” He pulled Pete’s .45 out of his pocket, grabbed it by the slide and charged it. “By the way, we found your strike. It’s going to make me richer’n hell. Glad, Mac?”

Algie squeezed the trigger and a hammer-blow struck Pete’s thigh. The little man stood over Pete, grinning.

“I’m going to give you all these slugs where they won’t kill you —not right away. Ready for the next one, Mac?” Pete pushed up onto one elbow and pressed his hand against the muzzle of the gun. Algie’s grin widened. “Fine, stop the bullet with your hand!”

He squeezed the trigger; the gun clicked sharply. A ludicrous expression of amazement came over his face.

Pete rose up and pressed the airmaker against Algie’s faceplate. The expression was still there when his head exploded into frosty ribbons.

Pete dived on the gun, charged it out of the half-cocked position and swung around. Algie had been smart, but not smart enough to know that the muzzle of a regulation .45 acts as a safety. When you press against it the barrel is pushed back into half-cock position and can’t be fired until the slide is worked to recharge it.

Mo came stumbling across the room, his jaw gaping in amazement. Swinging around on his good leg, Pete waved the gun at him. “Hold it right there, Mo. You’re going to help me get back to town.”

The giant didn’t hear him; there was room in his mind for only one thought.

“You killed Algie—you killed Algie!”

Pete fired the clip before the big man dropped.

He turned from the dying man with a shudder. It had been self-defense, but that thought didn’t help the sick feeling in his stomach. He twisted his belt around his leg to stop the blood and applied a sterile bandage from the tractor’s first-aid kit.

The tractor would get him back; he would let the Army take care of the mess here. He pushed into the driver’s seat and kicked the engine into life. The cat’s walk-through operated perfectly; the machine crawled steadily toward the surface. Pete rested his wounded leg on the cowling and let the earth flow smoothly past

and through him.

It was still snowing when the tractor broke through to the surface.

OR ALL THE SEAS WITH OYSTERS

Avram Davidson

Does anyone actually buy paper clips? Rubber bands? Pencils? Safety pins? Why bother? The things are always there when you need them—a little heap of clips in the desk drawer, a handful of safety pins in the kitchen catchall bowl. Somehow the supply is inexhaustible; not only are such objects always around, but you sometimes suspect that there are more of them this week than there were the last. Puzzling indeed, until Avram Davidson, the sly and erudite author of The Phoenix and the Mirror, Peregrine Primus, *and other wonders, solved the mystery in this Hugo-winning short story.*

When the man came into the F & O Bike Shop, Oscar greeted him with a hearty "Hi, there!" Then, as he looked closer at the middle-aged visitor with the eyeglasses and business suit, his forehead creased and he began to snap his thick fingers.

"Oh, say, I know you," he muttered. "Mr.—um—name's on the tip of my tongue, doggone it. . . ." Oscar was a barrel-chested fellow. He had orange hair.

"Why, sure you do," the man said. There was a Lion's emblem in his lapel. "Remember, you sold me a girl's bicycle with gears, for my daughter? We got to talking about that red French racing bike your partner was working on—" Oscar slapped his big hand down on the cash register. He raised his head and rolled his eyes up. "Mr. Whatney!" Mr. Whatney beamed. "Oh, *sure.* Gee, how could I forget? And we went across the street afterward and had a couple a beers. Well, how you *been*, Mr. Whatney? I guess the bike—it was an English model, wasn't it? Yeah. It must of given satisfaction or you would of been back, huh?"

Mr. Whatney said the bicycle was fine, just fine. Then he said, "I understand there's been a change, though. You're all by yourself now. Your partner . . ."

Oscar looked down, pushed his lower lip out, nodded. "You heard, huh? Ee-up. I'm all by myself now. Over three months now."

The partnership had come to an end three months ago, but it had been faltering long before then. Ferd liked books, long-playing

records and high-level conversation. Oscar liked beer, bowling and women. Any woman. Any time.

The shop was located near the park; it did a big trade in renting bicycles to picnickers. If a woman was barely old enough to be *called* a woman, and not quite old enough to be called an *old* woman, or if she was anywhere in between, and if she was alone, Oscar would ask, "How does that machine feel to you? All right?"

"Why ... I guess so."

Taking another bicycle, Oscar would say, "Well, I'll just ride along a little bit with you, to make sure. Be right back, Ferd." Ferd always nodded gloomily. He knew that Oscar would not be right back. Later, Oscar would say, "Hope you made out in the shop as good as I did in the park."

"Leaving me all alone here all that time," Ferd grumbled. And Oscar usually flared up. "Okay, then, next time *you* go and leave *me* stay here. See if I begrudge you a little fun." But he knew, of course, that Ferd—tall, thin, popeyed Ferd—would never go. "Do you good," Oscar said, slapping his sternum. "Put hair on your chest."

Ferd muttered that he had all the hair on his chest that he needed. He would glance down covertly at his lower arms; they were thick with long black hair, though his upper arms were slick and white. It was already like that when he was in high school, and some of the others would laugh at him—call him "Ferdie the Birdie." They knew it bothered him, but they did it anyway. How was it possible—he wondered then; he still did now—for people deliberately to hurt someone else who hadn't hurt them? How was it possible?

He worried over other things. All the time.

"The Communists—" He shook his head over the newspaper. Oscar offered an advice about the Communists in two short words. Or it might be capital punishment. "Oh, what a terrible thing if an innocent man was to be executed," Ferd moaned. Oscar said that was the guy's tough luck.

"Hand me that tire iron," Oscar said.

And Ferd worried even about other people's minor concerns. Like the time the couple came in with the tandem and the baby basket on it. Free air was all they took; then the woman decided to change the diaper and one of the safety pins broke.

"Why are there never any safety pins?" the woman fretted, rummaging here and rummaging there. "There are *never* any safety

pins."

Ferd made sympathetic noises, went to see if he had any; but though he was sure there'd been some in the office, he couldn't find them. So they drove off with one side of the diaper tied in a clumsy knot.

At lunch, Ferd said it was too bad about the safety pins. Oscar dug his teeth into a sandwich, tugged, tore, chewed, swallowed. Ferd liked to experiment with sandwich spreads —the one he liked most was cream cheese, olives, anchovy and avocado, mashed up with a little mayonnaise—but Oscar always had the same pink luncheon meat.

"It must be difficult with a baby." Ferd nibbled. "Not just traveling, but raising it."

Oscar said, "Jeez, there's drugstores in every block, and if you can't read, you can at least reckernize them."

"Drugstores? Oh, to buy safety pins, you mean."

"Yeah. Safety pins."

"But . . . you know . . . it's true . . . there's never any safety pins when you look."

Oscar uncapped his beer, rinsed the first mouthful around. "Aha! Always plenny of clothes hangers, though. Throw 'em out every month, next month same closet's full of 'em again. Now whatcha wanna do in your spare time, you invent a device which it'll make safety pins outa clothes hangers."

Ferd nodded abstractedly. "But in my spare time I'm working on the French racer. . . ." It was a beautiful machine, light, low-slung, swift, red and shining. You felt like a bird when you rode it. But, good as it was, Ferd knew he could make it better. He showed it to everybody who came in the place until his interest slackened.

Nature was his latest hobby, or, rather, reading about Nature. Some kids had wandered by from the park one day with tin cans in which they had put salamanders and toads, and they proudly showed them to Ferd. After that, the work on the red racer slowed down and he spent his spare time on natural-history books.

"Mimicry!" he cried to Oscar. "A wonderful thing!" Oscar looked up interestedly from the bowling scores in the paper. "I seen Edie Adams on TV the other night, doing her imitation of Marilyn Monroe. Boy, oh, boy."

Ferd was irritated, shook his head. "Not that kind of mimicry. I mean how insects and arachnids will mimic the shapes of leaves

and twigs and so on, to escape being eaten by birds or other insects and arachnids."

A scowl of disbelief passed over Oscar's heavy face. "You mean they change their *shapes?* What you giving me?"

"Oh, it's true. Sometimes the mimicry is for aggressive purposes, though—like a South African turtle that looks like a rock and so the fish swim up to it and then it catches them. Or that spider in Sumatra. When it lies on its back, it looks like a bird dropping. Catches butterflies that way." Oscar laughed, a disgusted and incredulous noise. It died away as he turned back to the bowling scores. One hand groped at his pocket, came away, scratched absently at the orange thicket under the shirt, then went patting his hip pocket.

"Where's that pencil?" he muttered, got up, stomped into the office, pulled open drawers. His loud cry of "Hey!" brought Ferd into the tiny room.

"What's the matter?" Ferd asked.

Oscar pointed to a drawer. "Remember that time you claimed there were no safety pins here? Look—whole gah-damn drawer is full of 'em."

Ferd stared, scratched his head, said feebly that he was certain he'd looked there before. . . .

A contralto voice from outside asked, "Anybody here?"

Oscar at once forgot the desk and its contents, called, "Be right with you," and was gone. Ferd followed him slowly.

There was a young woman in the shop, a rather massively built young woman, with muscular calves and a deep chest. She was pointing out the seat of her bicycle to Oscar, who was saying "Uh-huh" and looking more at her than at anything else. "It's just a little too far forward ('Uh-huh'), as you can see. A wrench is all I need ('Uh-huh'). It was silly for me to forget my tools."

Oscar repeated "Uh-huh" automatically, then snapped to. "Fix it in a jiffy," he said, and—despite her insistence that she could do it herself—he did fix it. Though not quite in a jiffy. He refused money. He prolonged the conversation as long as he could.

"Well, thank *you,"* the young woman said. "And now I've got to go."

"That machine feel all right to you now?"

"Perfectly. Thanks—"

"Tell you what, I'll just ride along with you a little bit, just—"

Pear-shaped notes of laughter lifted the young woman's bosom. "Oh, you couldn't keep up with me! My machine is a *racer!"*

The moment he saw Oscar's eye flit to the corner, Ferd knew what he had in mind. He stepped forward. His cry of "No" was drowned out by his partner's loud, "Well, I guess this racer here can keep up with yours!"

The young woman giggled richly, said, well, they would see about that, and was off. Oscar, ignoring Ferd's outstretched hand, jumped on the French bike and was gone. Ferd stood in the doorway, watching the two figures, hunched over their handlebars, vanish down the road into the park. He went slowly back inside.

It was almost evening before Oscar returned, sweaty but smiling. Smiling broadly. "Hey, what a babe!" he cried. He wagged his head, he whistled, he made gestures, noises like escaping steam. "Boy, oh, boy, what an afternoon!"

"Give me the bike," Ferd demanded.

Oscar said, yeah, sure; turned it over to him and went to wash. Ferd looked at the machine. The red enamel was covered with dust; there was mud spattered and dirt and bits of dried grass. It seemed soiled—degraded. He had felt like a swift bird when he rode it. . . .

Oscar came out wet and beaming. He gave a cry of dismay, ran over.

"Stand away," said Ferd, gesturing with the knife. He slashed the tires, the seat and seat cover, again and again.

"You crazy?" Oscar yelled. "You outa your mind? Ferd, no, don't, Ferd—"

Ferd cut the spokes, bent them, twisted them. He took the heaviest hammer and pounded the frame into shapelessness, and then he kept on pounding till his breath was gasping.

"You're not only crazy," Oscar bitterly, "you're rotten jealous. You can go to hell." He stomped away.

Ferd, feeling sick and stiff, locked up, went slowly home.

He had no taste for reading, turned out the light and fell into bed, where he lay awake for hours, listening to the rustling noises of the night and thinking hot, twisted thoughts.

They didn't speak to each other for days after that, except for the necessities of the work. The wreckage of the French racer lay behind the shop. For about two weeks, neither wanted to go out back where he'd have to see it.

One morning Ferd arrived to be greeted by his partner, who

began to shake his head in astonishment even before he started speaking. “How did you *do* it, how did you *do* it, Ferd? Jeez, what a beautiful job—I gotta hand it to you— no more hard feelings, huh, Ferd?”

Ferd took his hand. “Sure, sure. But what are you talking about?”

Oscar led him out back. There was the red racer, all in one piece, not a mark or scratch on it, its enamel bright as ever. Ferd gaped. He squatted down and examined it. It *was* his machine. Every change, every improvement he had made, was there.

He straightened up slowly. “Regeneration. . . .”

“Huh? What say?” Oscar asked. Then, “Hey, kiddo, you’re all white. Whad you do, stay up all night and didn’t get no sleep? Come on in and siddown. But I still don’t see how you done it.”

Inside, Ferd sat down. He wet his lips. He said, “Oscar— listen __”

“Yeah?”

“Oscar. You know what regeneration is? No? Listen. Some kinds of lizards, you grab them by the tail, the tail breaks off and they grow a new one. If a lobster loses a claw, it regenerates another one. Some kinds of worms— and hydras and starfish—you cut them into pieces, each piece will grow back the missing parts. Salamanders can regenerate lost hands, and frogs can grow legs back.”

“No kidding, Ferd. But, uh, I mean: Nature. Very interesting. But to get back to the bike now—how’d you manage to fix it so good?”

“I never touched it. It regenerated. Like a newt. Or a lobster.”

Oscar considered this. He lowered his head, looked up at Ferd from under his eyebrows. “Well, now, Fred . . . Look . . . How come all broke bikes don’t do that?”

“This isn’t an ordinary bike. I mean it isn’t a real bike.” Catching Oscar’s look, he shouted, “Well, it’s *truer*

The shout changed Oscar’s attitude from bafflement to incredulity. He got up. “So for the sake of argument, let’s say all that stuff about the bugs and the eels or whatever the hell you were talking about is true. But they’re alive. A bike ain’t.” He looked down triumphantly.

Ferd shook his leg from side to side, looked at it. “A crystal isn’t, either, but a broken crystal can regenerate itself if the

conditions are right. Oscar, go see if the safety pins are still in the desk. Please, Oscar?"

He listened as Oscar, muttering, pulled the desk drawers out, rummaged in them, slammed them shut, tramped back.

"Naa," he said. "All gone. Like that lady said that time, and you said, there never are any safety pins when you want 'em. They disap— Ferd? What're—"

Ferd jerked open the closet door, jumped back as a shoal of clothes hangers clattered out.

"And like *you* say," Ferd said with a twist of his mouth, "on the other hand, there are always plenty of clothes hangers. There weren't any here before."

Oscar shrugged. "I don't see what you're getting at. But anybody could of got in here and took the pins and left the hangers. *I* could of—but I didn't. Or *you* could of. Maybe—" he narrowed his eyes. "Maybe you walked in your sleep and done it. You better see a doctor. Jeez, you look rotten."

Ferd went back and sat down, put his head in his hands. "I *feel* rotten. I'm scared, Oscar. Scared of what?" He breathed noisily. "I'll tell you. Like I explained before, about how things that live in the wild places, they mimic other things there. Twigs, leaves . . . toads that look like rocks. Well, suppose there are . . . things . . . that live in people places. Cities. Houses. These things could imitate—well, other kinds of things you find in people places—"

"People places, for crise sake!"

"Maybe they're a different kind of life form. Maybe they get their nourishment out of the elements in the air. You know what safety pins *are*—these other kinds of them? Oscar, the safety pins are the pupa forms and then they, like, *hatch.* Into the larval forms. Which look just like coat hangers. They feel like them, even, but they're not. Oscar, they're not, not really, not really, not . . ."

He began to cry into his hands. Oscar looked at him. He shook his head.

After a minute Ferd controlled himself somewhat. He snuffled. "All these bicycles the cops find, and they hold them waiting for owners to show up, and then we buy them at the sale because no owners show up because there aren't any, and the same with the ones the kids are always trying to sell us, and they say they just found them, and they really did because they were never made in a factory. They grew. They grow. You smash them and throw them

away, they regenerate."

Oscar turned to someone who wasn't there and waggled his head. "Hoo, boy," he said. Then, to Ferd: "You mean one day there's a safety pin and the next day instead there's a coat hanger?"

Ferd said, "One day there's a cocoon; the next day there's a moth. One day there's an egg; the next day there's a chicken. But with . . . these it doesn't happen in the open daytime where you can see it. But at night, Oscar—at night you can *hear* it happening. All the little noises in the nighttime, Oscar—"

Oscar said, "Then how come we ain't up to our belly button in bikes? If I had a bike for every coat hanger—"

But Ferd had considered that, too. If every codfish egg, he explained, or every oyster spawn grew to maturity, a man could walk across the ocean on the backs of all the codfish or oysters there'd be. So many died, so many were eaten by predatory creatures, that Nature had to produce a maximum in order to allow a minimum to arrive at maturity. And Oscar's question was: then who, uh, eats the, uh, coat hangers?

Ferd's eyes focused through wall, buildings, park, more buildings, to the horizon. "You got to get the picture. I'm not talking about real pins or hangers. I got a name for the others —'false friends,' I call them. In high-school French, we had to watch out for French words that looked like English words, but really were different. *'Faux amis,'* they call them. False friends. Pseudo pins. Pseudo hangers . . . Who eats them? I don't know for sure. Pseudo vacuum cleaners, maybe?"

His partner, with a loud groan, slapped his hands against his thighs. He said, "Ferd, Ferd, for crise sake. You know what's the trouble with you? You talk about oysters, but you forgot what they're good for. You forgot there's two kinds of people in the world. Close up them books, them bug books and French books. Get out, mingle, meet people. Soak up some brew. You know what? The next time Norma —that's this broad's name with the racing bike— the next time she comes here, *you* take the red racer and *you* go out in the woods with her. I won't mind. And I don't think she will, either. Not *too* much."

But Ferd said no. "I never want to touch the red racer again. I'm afraid of it."

At this, Oscar pulled him to his feet, dragged him protestingly out to the back and forced him to get on the French machine. "Only

way to conquer your fear of it!"

Ferd started off, white-faced, wobbling. And in a moment was on the ground, rolling and thrashing, screaming.

Oscar pulled him away from the machine.

"It threw me!" Ferd yelled. "It tried to kill me! Look— blood!"

His partner said it was a bump that threw him—it was his own fear. The blood? A broken spoke. Grazed his cheek. And he insisted Ferd get on the bicycle again, to conquer his fear.

But Ferd had grown hysterical. He shouted that no man was safe—that mankind had to be warned. It took Oscar a long time to pacify him and to get him to go home and into bed.

He didn't tell all this to Mr. Whatney, of course. He merely said that his partner had gotten fed up with the bicycle business.

"It don't pay to worry and try to change the world," he pointed out. "I always say take things the way they are. If you can't lick 'em, join 'em."

Mr. Whatney said that was his philosophy, exactly. He asked how things were, since.

"Well . . . not *too* bad. I'm engaged, you know. Name's Norma. Crazy about bicycles. Everything considered, things aren't bad at all. More work, yes, but I can do things all my own way, so . . ."

Mr. Whatney nodded. He glanced around the shop. "I see they're still making drop-frame bikes," he said, "though, with so many women wearing slacks, I wonder they bother."

Oscar said, "Well, I dunno. I kinda like it that way. Ever stop to think that bicycles are like people? I mean, of all the machines in the world, only bikes come male and female."

Mr. Whatney gave a little giggle, said that was *right,* he had never thought of it like that before. Then Oscar asked if Mr. Whatney had anything in particular in mind—not that he wasn't always welcome.

"Well, I wanted to look over what you've got. My boy's birthday is coming up—"

Oscar nodded sagely. "Now here's a job," he said, "which you can't get in any other place but here. Specialty of the house. Combines the best features of the French racer and the American standard, but it's made right here, and it comes in three models—Junior, Intermediate and Regular. Beautiful, ain't it?"

Mr. Whatney observed that, say, that might be just the ticket. "By the way," he asked, "what's become of the French racer, the red

one, used to be here?"

Oscar's face twitched. Then it grew bland and innocent and he leaned over and nudged his customer. "Oh, *that* one. Old Frenchy? Why, I put *him* out to stud!"

And they laughed and they laughed, and after they told a few more stories they concluded the sale, and they had a few beers and they laughed some more. And then they said what a shame it was about poor Ferd, poor old Ferd, who had been found in his own closet with an unraveled coat hanger coiled tightly around his neck.

THE CHRYSALIS

P. Schuyler Miller

The late P. Schuyler Miller began writing science fiction when he was a schoolboy, about 1930, and for a decade or so was one of the best in the field, producing such memorable stories as "The Sands of Time," "As Never Was," and "Old Man Mulligan." Then, unaccountably, he abandoned fiction, although he remained a close observer of the science-fiction scene until his death a few years ago. Science fiction was just one of this warm and genial man's great passions; another was archaeology, which he practiced as a dedicated amateur, exploring paleolithic sites in the eastern United States. Those two deep concerns fused in this lovely story, delicate and evocative, hinting at revelations of an eerie species long vanished from the world.

Bates grinned when he saw those logs. I know that as well as though I'd been there. That grin of his is famous. I've seen it time and again when he has come across something rare or unusual, wrinkling his homely face into something like the relief map of a lava flow. Besides, I whooped myself when I discovered them.

There were more than when I first found them, the week before, just after the freshet. The creek had cut away a sort of alcove in the bank, eddying back in a clear, deep pool with a long, sleek swell of current over the topmost log. The water was eating hungrily at the bank and at the stiff, blue clay that underlay it, and little trickles and sudden slides of gravel were cascading into the pool.

The water was cold—damned cold—but Bates went in up to his waist without hesitation. That's the way he is. I've seen him squat for hours in the blazing sun, bareheaded, dusting out a burial so that he could get plenty of detail in his photographs. Once in the middle of February, when he came on half a pot exposed in a cut bank, he wasted a whole day and ruined a good ax hacking out a huge block of the frozen mud in which it was embedded, only to have the whole thing crumble to bits when he tried to thaw it out. And he'd do anything for tree rings.

Bates is a dendrochronologist—a tree-ring expert. He dates

things by them, as easily—or so it seems to me—as we would look up a year in the *World Almanac*. He was originally just the common, back-pasture variety of amateur archaeologist, a good one, to be sure, with quite an enviable reputation in the circles where it counted, but nothing to startle any paper into giving him a double-page spread in one of its Sunday magazine sections.

Then he happened to run across a site with a particularly ungodly mix-up of culture traces, and got it into his head that the only way to solve the thing was to date it. Obviously tree rings were the answer: everyone who reads the newspapers knows all about how they show what years were wet and which were dry, and how Professor Douglass and his crew have dated hundreds of ruins by them in the Southwest.

The trouble was that nothing that they had worked out there was any good at all to him. If there is any place less like the Arizona desert than the foothills of the Adirondacks, I have yet to see it. Anyway, he started from scratch to work out a calendar of his own.

He did it, too. He dated everything in sight that had wood in it—old houses, covered bridges, antiquated horse troughs, Indian stockades—and before long he was far out of sight in the depths of prehistoric times, grubbing joyously among nubbins of charcoal and scraps of rotten wood, farther back than anyone had ever thought it possible to go.

He tried linking in the layers of mud laid down in the bottoms of ponds, and the sand in river deltas. He had half a dozen different calendars and chunks of calendars ranging over thousands of years, with gaps between them in which a civilization as big as Colonel Churchward's Mu could have risen and been lost.

He was particularly fond of the ones that hovered around the fringes of glacial times, when men were just beginning to amount to something in the world. That was why he grinned when he saw those logs.

There was a good twelve feet of gravel over them, and three or four feet of stiff blue boulder clay under that. They were embedded in clay as fossils are embedded in rock, and for the same reason. Hundreds of centuries ago they had lain, water-logged, in the mud at the bottom of some glacial lake. Silt covered them, washed down from the melting front of the great ice sheet that lay over half the world.

Year after year the layers of clay built up, thick in the warm

years as the ice melted faster, then thinner and thinner as the great cold came again and the glacier crept southward over the continent. It heaped gravel and broken rock in long moraines over the frozen lake bottom. Finally it disappeared for good. The world grew warm again and new streams cut their way down through the debris left by the great ice.

Those logs had been trees in interglacial times, when apish men roamed over Europe and mastodons and mammoths wallowed in the swamps of the northern hemisphere. Their rings would record the changes in climate that brought the ice sheet creeping like slow death over the face of the planet. No wonder Bates grinned!

I had seen the ends of two logs protruding from the clay when I led a hike that way the Sunday before. The water was still high, and by now a dozen or more were uncovered.

Queerly enough, they were all very much of a size and lay side by side, all on the same level, just under the surface of the water. Gravel from the bank had drifted against their exposed ends, hiding them, and Bate's plodding boots had muddied the pool below so that he couldn't see the downstream face of the pile. But Bates isn't one to wait. He unslung a short-handled shovel from his pack, waded out into the middle of the creek, and went to work.

In an hour's time he had a dam and a channel that diverted the current along the opposite bank of the stream. The upper surface of the logs was high and dry, or drying, and he had hacked a long trough through the clay of the creek bottom which had lowered the level of the eddy pool by a good two feet.

He hunched down and studied the logs. They were soft and cheesy to the touch, and dark with age, like huge, uneven cylinders of black chocolate. Pines, probably. He hoped so, for pines had the most sensitive rings. He reached down and began to scoop the drifted gravel away from their ends. And then he yelled.

Those logs were cut by men!

They were cut by men—Heaven knows of what race or color—who lived with the hairy mammoth and the giant sloth before the ice came, twenty or thirty or forty thousand years ago! The ax marks were plain on the exposed wood. They weren't beaver marks—he knew those by heart. A flint ax made them—a flint ax wielded two hundred centuries and more ago, not in New Mexico, or Colorado, or Wisconsin, but here, *here,* practically in his own back yard!

He went at the gravel like a terrier, with both hands, until he had uncovered the ends of six great logs, lying side by side in the blue clay. Then he cleared away a space beneath them with a trowel. He ran his fingers along their buttery underside—and sat back staring, goggling, utterly incredulous.

Those logs were notched to fit over the top of a crosspiece!

Bates is too good an archaeologist to go off half cocked. Before he left that night, he had uncovered one whole end of the thing, down to solid rock, and covered it up again to protect it from the force of the stream. He reenforced his dam and deepened the channel he had dug, until all but a thin trickle of water followed the other bank, with a solid dike of tamped clay and stone between. And when we arrived, long before dawn the next morning, he set us to work at once draining the pool.

There were three of us, counting Bates, and a fourth was on his way. He had no time to spare. The barometer and the weather maps both shouted "Storm!" and rain would ruin forever our chances of saving whatever had been buried in that ancient vault.

For vault it was—the oldest structure ever found that was raised by human hands. It was made entirely of huge, hewn logs, five feet square at the base and over twice as long, and it was set on a great, smoothed block of solid limestone.

We worked that day as I never want to work again. We dug away that twelve-foot gravel bank until it stood back a clear six feet on all sides of the vault. We cut into the clay and peeled it away in great, thick slabs, with Michaelson following every step. He was a notary, and a wizard with a camera, and if Mann should arrive too late we would have a sworn record that no investigating committee of bluenosed skeptics could argue away.

Mann flew. I had met him once, at a Rochester meeting of the Society for American Archaeology, where he was carrying on Parker's enviable tradition as superhost to half the archaeologists in the country. Bates knew him well, and what was more, he knew Bates. No train was fast enough for an emergency like this one. The sun was barely an hour high when his plane bounced down into the pasture above the creek and he came stalking across to where we were working, his coattails flying and his white mane rumpled and tousled where he had been yanking it in his impatience.

Mann is sixty if he's a day, but he dug too. He dug like a demon —we all did—but time went past like the whisk of a scared trout.

The whole west was black, with fitful flares of lightning illumining the cavernous hollows of the clouds, and now and then a rumble of closer thunder.

Michaelson was swearing dismally as the light faded and he had to give longer and longer exposures to his films, and Bates's face was a savage mask. Heaven alone knew what was in that great log box, and if the storm broke, that knowledge would be kept through all eternity.

Night was on us before the last log was clear. Michael-son's flares lighted the landscape weirdly as he photographed the vault, deep at the bottom of its muddy crater, with our haggard faces peering past its massive bulk. The limestone block on which it stood was pecked and polished by human hands, its edges roughly squared. That, at least, we could leave to study later. Nothing less than an earthquake would carry that away.

It was insanity to expose the wood as we had done. It was soft and sodden with water, and full of heavy, hard-packed clay. Heaven knows what kept it from collapsing before we were half done. But it was the only way. We had no time to do it carefully. The first raindrops spattered against our faces as Mann lifted a flare high above his white head and Bates and I seized the ends of one of the great roof logs. It felt like solid lead.

"Drop it!" Bates gasped. His teeth were set in his lower lip and there was a trickle of blood on his chin. "It doesn't matter. We can't wait."

Log after log smashed into the pit below us. The top was cleared. A mass of the blue clay filled the vault, retaining the impression of the logs that had covered it. As we wrenched away the ends and sides, down to the level of our waists, I heard Michaelson's camera whirring at my ear, recording every detail.

Mann's hand fell on my shoulder. It was raining hard now, and little craters were puddling the wet clay. I thought of the little droplet marks that are found imprinted in the stone of fossil beaches, and somehow those lost ages seemed closer than ever before.

"There are only a few more flares," Mann told me. "You'd better clear the interior. Use a trowel."

Have you ever used a trowel on hard clay? Layer after layer we peeled off, slowly, laboriously, a chunk at a time, until my back and arms and my tortured wrists screamed for respite. Down—down—

we went, three trowels delving like mad, and Michaelson below us, swinging an ax, hacking the logs into sections small enough to carry safely to the field above.

At last a bare six inches separated us from the remaining logs. Mann was in the middle, his sleeves rolled to the elbows, his gnarled old arms darting expertly, shaving the clay away in tiny flakes. Suddenly something flashed white under his trowel.

We stood frozen, staring, at his cry. Michaelson came climbing out of the darkness behind me, clutching at my arm as he balanced at my side. Windy gusts of rain swept across the wet clay before us, eating it away, enlarging that spot of glistening white.

The flare went out. I heard Bates swear, heard him striking match after match, heard them splutter out. One caught. All his body was warped over it, shielding it from the wind and driving rain. Its feeble flame lighted his clay-streaked face and Mann's hand, thrusting the flare toward him. Then the bald, white light blazed in our faces again, and Michaelson's cameras were whirring, clicking, whirring at my side.

With numbed, blue fingers Mann scooped away the clay, working it down to an even level. A second patch of white appeared, close beside the first. No one spoke as his bony fingers ate away the clay, deeper and deeper, aided by the pelting rain. Our breathing sounded harsh and strange. I saw Bates's face, opposite me, and there was something indescribable in it, in his glittering eyes.

Mann's plying fingers stopped and his bent back straightened as he, too, stared into Bates's face. And then it was as though some wizard's screen were snatched away from before me. I saw what I had not seen before—what, somehow, my brain had refused to comprehend.

Thrust up from the hard, blue clay were the two white mounds of a woman's breasts!

It was impossible! We knew—we had proof—that that vault of flint-hewn logs had lain under tons of earth for tens of thousands of years. No human flesh had ever endured so long—could ever endure so long.

It was impossible!

But it was true!

I touched the smooth, white flesh. It was hard, firm, and oddly dry—almost with warmth of its own. It was not like dead flesh, nor

was it stone—a statue. I heard Bates's hoarse voice, whispering: "We must uncover it."

And Mann: "Yes, Yes."

Under their trowels, under their digging fingers, the white flesh grew and grew. Twice they stopped, impatient, while we pried away more logs and hacked at the clay with frantic shovels, levelling it down, carving gutters to carry away the teeming rain that poured down over that glistening white flesh, washing it clean, revealing it to our hungry eyes.

She lay on a low table of hewn stone, smoothed like the great outer block. Her eyes were closed, and her full lips, and her slim white arms lay straight at her sides. Her hair was piled in a tumbled mound beneath her head and flowed down in two great, golden masses over her shoulders, gleaming like spun metal through the clotted blue clay. She was beautiful. And—she was dead.

Mann knows races as he knows the faces and voices of friends, but he could not place her. There was never a race like that in recorded history, nor in the legends of men before history. In her high cheeks, her narrow eyes, her slightly flattened nostrils were Mongol traces, but that slim white body with its glory of golden hair was not Mongol. Her long straight limbs and delicate, tapered fingers were not Mongol. By no fantasy of the imagination could she be identified with the yellow race.

The rain was beating like icy flails upon our backs. Trees in the darkness were tortured by the wind, and behind its dike of clay the tumult of the raging stream was rising to a sullen, brooding growl. The glare of the torch fell in a pool of light about us, its dim edges glinting from tossing wave tops, lipping higher than our heads at the very summit of the dike. Gullies were eating their way into the broken clay and murky rivulets streamed through them, eating at the soft earth, crumbling it away.

Mann's voice was cracked and shrill over the clamor of the storm. His bare arm stretched toward the leaping wave crests, and words drifted to me on gusts of the wind.

"Get her away—the plane—before it breaks. No time— hurry! Hurry, man!"

Bates was on his knees in the clay, pushing his fingers under her white shoulders. His eyes turned to me and I understood. My hands gripped her ankles, smooth and glistening—wet, yet somehow dry—warm and strangely dry, and harder than flesh

should be. We lifted her, stiff, like a statue, between us, and she was not heavier than a girl would be.

We held her high, scrambling down from the great stone into the pit, the muddy water swirling around our thighs, the soft clay underfoot sucking and slipping. Painfully, clawing for purchase in the sliding gravel, we worked our way up the steep side of the crater, out of the light of the flare, into the darkness.

We laid her on the cropped, wet grass of the pasture. Bates ran back and stood shouting down at the others where they crouched in the pit, searching the clay for ornaments, offerings—anything that might have been placed with the body. I saw his lean arm, silhouetted against the light of the flare, pointing upstream, and it seemed to me that there was a deeper, uglier note in the shout of the savage waters.

Barely in time, Mann's streaming mane appeared over the rim of the pit, his hand seized Bates's, and he scrambled out, kneeling to reach for the cameras. After him came Michaelson, dropping the flare to fling himself over the pit edge just as the freed waters of the creek smashed against the gravel cliff beneath him.

Then we were standing in rain-swept darkness while Michaelson fumbled with matches and the flare, were stumbling across the uneven ground toward the plane, carrying that still, white form that should not, could not logically exist—a woman older than the very hills above our heads!

All that night we crouched in the lee of the plane. By the time the first wan light began to creep over the sodden landscape, Mann decided that it was safe to take off. The ship would not carry more than two.

We helped him load that glorious, rigid form into the cockpit and stood in a huddled group as he taxied slowly up the bumpy field, swung around, and came roaring down toward us. Somehow the plane gained speed; somehow he lifted it, mud from its dripping wheels lashing our upturned faces, and then we were standing alone in the cold, wet morning, with only incredible memories to bear witness to what had happened in the night.

There was no plane west that day. How we endured it as the train dawdled along through the interminable flatlands west of Syracuse, I cannot understand. I was half frantic with suspense and I knew that Bates must be even closer to nervous collapse, but we sat, stony-faced, staring out at the flat, gray landscape, waiting,

while Michaelson fussed and fretted over his newest and largest camera. Waiting— for what, none of us knew—none of us could ever have guessed.

The museum car was at the station. Bates knew the driver, and what happened to traffic laws that night would bring the Rochester police to the brink of tears. Michaelson, white-faced, sat hugging his camera to him like a baby, but he never breathed a word of protest. None of us grudged anything that would save another minute.

The only lights in the big building were in Mann's workroom. He looked up as we entered. Evidently he had not rested since he left us, sixteen hours before. A fling of his hand included the two men who stood with him behind the long table with its still, white, lovely form.

"Clements—Breen."

The former was a man like a bearded mountain, younger than I am, the latter a man like a wizened elf, older than Mann. In that room we had the three greatest anthropologists in the United States —and a mystery that baffled them all.

Clements was slow of speech. His brow wrinkled and words began to boom at us, only to be snatched from his lips by Breen's tempestuous babble.

"I have seen nothing like her, ever. There is—"

"—no precedent! Never! You, Bates—she's yours. You found her. What do you say?"

Bates's smile was a bit apologetic. "I've had no opportunity to examine her, Professor. You have had half the day. Surely you can speak for what you have found."

This time Clements' thunder carried through. "There was nothing with her? No offerings of any kind? Then study her closely, now, before you ask us anything more—you too, gentlemen. There will be time enough for discussion afterward."

I stared again at those lovely features, framed in their mist of spun gold. Mann had cleaned the clay from her, and she lay like a girl asleep, long dark lashes upcurved on high, white cheeks, red lips parted—it was impossible that she should be dead! And dead for thirty thousand years!

I touched her, and again I sensed that curious roughness as of old parchment, that radiant, vibrant inner warmth. It was not like dead flesh, nor was it like the flesh of any mummy I had ever seen.

It was rigid—hard—like stone, almost, yet without the coldness of stone.

Bates was examining her closely, his face for once expressionless. His fingers traced the contours of the gently swelling muscles under her white skin. His eyes devoured every inch of her beauty, stretched there before him, but they were a scientist's eyes, reading the story hidden in those matchless lineaments.

He took her hair in his hands and let it ripple slowly through his fingers in a curling yellow foam. He touched her eyelids, gently, and her full lips, and peered, frowning at the tiny ovals of her nails. He looked up, past me at the others, and there was blank bewilderment in his eyes.

"What does it mean? What is she? I—I don't understand."

Clements shrugged hugely, his hairy face smug. Little Breen's eyes glittered and his voice was shrill with excitement.

"You see? Her lips—her eyes—her fingers—did you see them? It is impossible! No scientist could do it today. And ten—twenty—thirty thousand years ago— It is impossible!"

Mann saw my bewilderment. "Her fingers are grown together," he explained, "her toes also. You can see that they do not separate. The skin is continuous, and her eyelids seem welded to the cheeks. That could be if she was abnormal—a cripple—in life. But her lips, too— Look closely. Touch them."

I laid my hot fingers upon their full, crimson curve. The glistening enamel of her perfect teeth showed between them. I tried to press them back, as I had seen Bates do. They were like wood! They would not move!

"Flesh welded to flesh is not strange, but flesh grown to the enamel of her teeth!" It was Clements speaking. "And look closely—there is a meniscus, a serif, where they join."

It was true. It was as though that marvelous body were cast in wax, all in one piece. Under her nails the flesh curved up with the same little concave meniscus, and when Clements gave me a lens I saw that at the base of each golden hair the skin rose in a tiny cone, shading gradually from ivory to shimmering yellow. Every tiny wrinkle— every whorl and ridge of her palms and fingertips was plainly marked, but nowhere were the tiny pits of pores.

Nowhere was there any opening in that strange, hard membrane that covered her entire body in place of normal human skin.

Bates had been examining her with that stolid thoroughness that is so characteristic of him. Now he stood staring into vacancy, oblivious of everything.

I knew what thoughts were passing through his mind. What was she, this woman out of the past? What manner of creature could live as she must have lived, sealed away from the world and everything in it? How did she eat— drink—breathe? Was it like a plant, absorbing moisture and food through that unnatural skin—feeding on light itself? Was she, in fact, some superplant from an age when plants were lords of Earth and all that lived on it—the culmination of a line of evolution longer and greater than that which had given rise to the human form she mimicked?

She was no plant! The man in me, surging up at the vision of her slim, white loveliness, knew that. She was all woman—a woman such as history and the races of history had never known—a woman of that elder, godlike race whose vague traditions filtering through the ages had been preserved in the myths of the earliest known men.

Men of her own race had laid her where we found her —or was it men of another blood, living centuries after the last of her own kind had vanished from the Earth, and ministering to her as the goddess that her beauty proclaimed her? Was it the forgotten science of her ancient race that had preserved her, immune and inviolate, through the ages?

I heard Bates's voice, strained and unreal: "You're sure she's dead?"

What if she were not dead? What if she were in some hypnotic, trancelike state of suspended animation, preserved by the magic of her ancient science until the day when men should be ready to receive her again and with her rule the world in godlike power? What if we should wake her—now—after thirty thousand years?

Mann answered him. "We have found no evidence of life, and we were as thorough as the time allowed. I would swear that she is dead, if she were a normal being. But—"

"We are not sure!" boomed Clements. "Because our tests show no life we cannot swear that she is dead. Because she had been buried in the earth since the days of the ice age, we cannot assume that life could not remain in her. There have been other instances—of other forms of life, preserved in clay or stone for months and years. I tell you, we are not sure—and we must be!"

Bates nodded thoughtfully. His emotions were no longer overbalancing his better judgment. “What records have you made?” he asked.

Breen gestured impatiently. “The usual things. Her weight—the standard measurements of the body—photographs and molds with Negacoll. Clements has samples of her hair and microphotographs of her skin. We have done what we could, without dissection. An expert craftsman, such as you have in this museum, could make her live again as you see her now.”

Bates bit his lip. It was a difficult decision to make. “Then there is only—dissection?”

Breen nodded: “Yes.”

A thin line of worry had appeared between his eyes. “Suppose she’s alive,” he protested. “We’d kill her. And we don’t know that she’s dead, we can’t be sure!”

Breen snorted. “Of course, she’s dead! Why talk madness? This perfect preservation—who knows what natural chemistry of the body, and of the soil in which she was buried, might not have preserved the flesh and cause this hornlike hardening of the skin? Mammoths have been found with everything intact. We must examine her, thoroughly, and we must be quick. Decomposition begins suddenly in these cases, and in an hour—poof!—there may be nothing left! We are scientists. Never has there been such an opportunity. Of course, we will dissect!”

He was right, of course, but Clements, I think, felt something of what we did. There was more of the romantic in him than in Breen. He interrupted: “One moment, Professor. This hardening of the skin has undoubtedly resulted in the wonderful preservation which we have seen, but— does it extend to the vital organs which we cannot see? We must not expose them to the effects of the air until we are certain that they will not be destroyed.”

Breen stared at him. “What do you suggest?” he demanded.

“The ray, first. It will show us what we want to know as well as dissection—the details of the skeleton, and the nature of the vital organs. Then refrigeration—as soon as possible, to be safe—and injection of preservatives. The tissues will not be in danger of destruction, then, and we can complete our examination without the need of this mad haste.”

Breen stood for a moment with pursed lips, nodding slowly. Then he swung to Mann. “You have an X ray?” he asked curtly.

“There is one downstairs,” Mann told him. “One of our research staff is using it in his study of pottery. But we use only the small-sized plates. We can arrange with the hospital to take a full-length picture.”

Breen’s hand shot up impatient negation. “Later, if need be—not now. You have a fluoroscope? Then we will begin with that—the photographs afterward. There is no need of depending upon hospital routine when we can do the work ourselves—and trust it when it is done. Will you bring the apparatus up here?”

“Yes,” Mann assented. “There is no room downstairs. We can set it up over there, under the skylight. Open it, please, Mr. Bates—it is too warm here. We must be more careful of that. And I will need help with the equipment.” Bates and I went down with him to get the X ray, leaving the others to rig an adjustable canvas framework on which to place the body when it was photographed. The apparatus was infernally heavy, and it took the three of us the better part of an hour to get it set up and working properly.

Meanwhile, Clements was deep in another examination of her skin and hair, and little Breen was bounding back and forth between him and Michaelson, who had completed the stretcher and was making a simple holder for the plates.

We laid her carefully on the taut canvas and buckled two broad straps across her flawless body, holding it in place. Breen was tinkering fussily with the transformer of the X-ray generator while Mann held the fluoroscope, As I stood by the door, watching them, a breath of air from the open skylight ruffled the curling golden wave that lay heaped against her cheek, and I could have sworn that her rounded bosoms rose and fell gently with the regular breathing of deep sleep. I looked again, and it was illusion.

Breen finished his adjustments, and I snapped off the lights. There was the click of a tumbler switch, and the dull violet glow of the ray illuminated the faces of the five men bending over that still, white form on the stretcher. The drone of the transformer was the only sound in all the room.

Breen’s heels rasped on the concrete floor. He was going around behind the stretcher. Clements had lifted it with both hands and was moving it into the direct path of the ray. Then Breen reached over and took the fluoroscope from Mann.

He took it—I saw that—and he must have lifted it into place behind the frame. Michaelson stepped back into my view, and all

that I could see was the carved, white face dimly lighted by the ghastly glow of the X-ray tube. I stepped away from the switch, to one side, to get a better view.

Breen shouted.

I saw him bob up from behind the stretcher, choppy sounds pouring from his mouth. There was a dry, brittle rending and Michaelsoh leaped back as though shot.

And then I saw!

A great black gash split that matchless body. It lay in halves—halves that were moving, separating, straining at the canvas straps that held it. They burst with a rotten snap and then slid down against the cross brace at the bottom of the frame. Then out of that cloven gap rose a thing out of madness!

Faceted eyes as huge as a man's two fists glittered in the wan light. A black, humped form rose from between the tilted breasts, higher, higher—dragging itself out of the riven husk that had been a woman—towering on fragile, jointed legs—dwarfing the men who stood beneath it.

Two wings began to grow from its sides, like shimmering disks of fire. Colors rippled through them—colors that paled and waxed and paled again in pulsing waves of radiance. Light poured out of the thing's warped body, making it a transparent, crystal shell. Light blazed from the myriad facets of its glittering eyes. And then it straightened its bent back.

It stood erect, like a man, on two legs. Its wings enveloped it like a gauzy veil of light, fluted and laced and ruffled, creeping with colored fire. A mass of feathery tendrils stirred uneasily between its eyes, where a mouth should be.

Its wings were swelling, as a moth's wings do. They spread until the whole room blazed with their glory. They swept up and forward until they shrouded the four men who stood motionless beneath it—Clements, Michaelson, Bates, and Breen. Mann had stumbled closer to me, outside of their gossamer spread. For a moment those two great compound eyes regarded us over that curtain of living flame, and then the oval head sank slowly down, its mouth parts palpitating—spreading—

Neither of us knows what time passed then. As we gazed, the color of those vast, encircling wings deepened and brightened, until all the room was filled with a splendor of violet flame. It seemed to grow—visibly—until its bent head towered inches from the open

skylight and its throbbing wings pulsed within a yard of Mann's rapt, rigid body. Warmth flooded from them—radiation—like the warmth that had emanated from the naked woman form that had been its chrysalis. And then, somehow, I found my fingers on the light switch. Somehow they moved—somehow the lights went on.

And there was nothing there!

Nothing? The thing had weight and substance, for I had lifted it in my own two arms, and seen it crush the bodies of our men into its embrace. But it was transparent—invisible. A shimmering violet haze hung between me and the opposite wall, above it the flicker of watching, many-faceted eyes. And in the midst of that haze, crumpled and shrunken by whatever awful force had blasted the life out of them, stood the four men.

Light hurt it. For a moment that cold gaze rested on us. A moment it stood there, staring at us from above its enshrouding, fiery wings. Then, like a whisk of fleeting shadow, it was gone, out into the empty night, and we were alone with the shriveled husks of the men who had been our friends.

What was it? How can I tell you, who know no more than you do? It was a thing that lived in the days of the great ice age, when savage men hunted the mammoth and the giant sloth where our American cities now stand. It was a thing of many shapes, like a mighty butterfly, making its chrysalis in the image of a beautiful woman—a goddess of utter loveliness.

Those forgotten savages worshipped it, and built it a crypt, a shrine of smoothed stone and massive logs as their fathers had done, and their fathers before them, since there were men who loved beauty. And in time it crept out of that lovely, treacherous shell and blasted the life and soul from those who tended it.

Where has it gone? The world is different now, and there are none of its kind to mate with it and preserve its hellish breed. Perhaps it died, as moths die, within an hour or a day, and lies invisible in some field or forest nook, the blazing light of its unnatural life gone out of it. Perhaps it still lives, somewhere in the north where the ice still lingers, and will somehow multiply and return to scourge the Earth as it was scourged in the days before history, by a hell of utter beauty that drains men of their very souls.

Perhaps—but shall we ever know?

THE ROTIFERS

Robert Abernathy

The name of Robert Abernathy does not strike the same sort of resonant chords in the minds of most science-fiction readers as do, say, the names of Robert Heinlein or Isaac Asimov or Theodore Sturgeon. But connoisseurs of the genre are apt to nod sagely when his name comes up in conversation, for Abernathy's contribution, though small, has been of the highest quality. Beginning as a very young man in 1942 with the well-remembered "Peril of the Blue World," he has produced some three dozen short stories in about as many years—"The Canal Builders," "The Dead-Star Rover," "Axolotl," "Pyramid," and "The Rotifers," which you are about to read, being the ones that come most readily to mind. By profession Abernathy, a quiet, mild-mannered man, is a linguist specializing in Slavic languages. For the past decade or so he has been a member of the faculty at the University of Colorado, where he teaches, among other things, a course in Soviet and other East European science fiction.

Henry Chatham knelt by his garden pond, a glass fishbowl cupped in his thin, nervous hands. Carefully he dipped the bowl into the green-scummed water and, moving it gently, let trailing streamers of submerged water weeds drift into it. Then he picked up the old scissors he had laid on the bank, and clipped the stems of the floating plants, getting as much of them as he could in the container.

When he righted the bowl and got stiffly to his feet, it contained, he thought hopefully, a fair cross-section of fresh-water plankton. He was pleased with himself for remembering that term from the book he had studied assiduously for the last few nights in order to be able to cope with Harry's inevitable questions.

There was even a shiny black water beetle doing insane circles on the surface of the water. At sight of the insect, the eyes of the twelve-year-old boy, who had been standing by in silent expectation, widened with interest.

"What's that thing, Dad?" he asked excitedly. "What's that crazy bug?"

“I don’t know its scientific name, I’m afraid,” said Henry Chatham. “But when I was a boy we used to call them whirligig beetles.”

“He doesn’t seem to think he has enough room in the bowl,” said Harry thoughtfully. “Maybe we better put him back in the pond, Dad.”

“I thought you might want to look at him through the microscope,” the father said in some surprise.

“I think we ought to put him back,” insisted Harry.

Mr. Chatham held the dripping bowl obligingly. Harry’s hand, a thin boy’s hand with narrow, sensitive fingers, hovered over the water, and when the beetle paused for a moment in its gyrations, made a dive for it.

But the whirligig beetle saw the hand coming, and, quicker than a wink, plunged under the water and scooted rapidly to the very bottom of the bowl.

Harry’s young face was rueful; he wiped his wet hand on his trousers. “I guess he wants to stay,” he supposed.

The two went up the garden path together and into the house, Mr. Chatham bearing the fishbowl before him like a votive offering. Harry’s mother met them at the door, brandishing an old towel.

“Here,” she said firmly, “you wipe that thing off before you bring it in the house. And don’t drip any of that dirty pond water on my good carpet.”

“It’s not dirty,” said Henry Chatham. “It’s just full of life, plants and animals too small for the eye to see. But Harry’s going to see them with his microscope.” He accepted the towel and wiped the bowl; then, in the living room, he set it beside an open window, where the summer sun slanted in and fell on the green plants.

The brand-new microscope stood nearby, in a good light. It was an expensive microscope, no toy for a child, and it magnified four hundred diameters. Henry Chatham had bought it because he believed that his only son showed a desire to peer into the mysteries of smallness, and so far Harry had not disappointed him. Together they had compared hairs from their two heads, had seen the point of a fine sewing needle made to look like the tip of a crowbar, had made grains of salt look like chunks of glass brick, had captured a housefly and marveled at its clawed hairy feet, its great red-faceted eyes, and the delicate veining and fringing of its wings.

Now he let Harry find the glass slide with a cup ground into it, and another smooth slip of glass to cover it. Then he half-showed, half-told him how to scrape gently along the bottom sides of the drifting leaves, to capture the teeming life that dwelt there in the slime. When the boy understood, his young hands were quickly more skillful than his father's; they filled the well with a few drops of water that was promisingly green and murky.

Already Harry knew how to adjust the lighting mirror under the stage of the microscope and turn the focusing screws. He did so, bent intently over the eyepiece, squinting down the polished barrel in the happy expectation of wonders.

"Have you got it, Harry?" asked his father after two or three minutes during which the boy did not move.

Harry took a last long look, then glanced up, blinking slightly.

"You look, Dad!" he exclaimed warmly. "It's—it's like a garden in the water, full of funny little people!"

Mr. Chatham bent to gaze into the eyepiece. This was new to him too, and instantly he saw the aptness of Harry's simile. There was a garden there, of weird, green transparent stalks composed of plainly visible cells fastened end to end, with globules and bladders like fruits or seed-pods attached to them, floating among them; and in the garden the strange little people swam to and fro, or clung with odd appendages to the stalks and branches. Their bodies were transparent like the plants, and in them were pulsing hearts and other organs plainly visible. They looked a little like sea horses with pointed tails, but their heads were different, small and rounded, with big, dark, glistening eyes.

All at once Mr. Chatham realized that Harry was speaking to him, still in high excitement.

"What are they, Dad?" he begged to know.

His father straightened up and shook his head. "I don't know, Harry," he answered slowly, casting about in his memory. He seemed to remember a microphotograph of a creature like those in the book he had studied, but the name that had gone with it eluded him.

He bent over once more to immerse his eyes and mind in the green water-garden on the slide. The little creatures swam to and fro as before, growing hazy and dwindling or swelling as they swam out of the narrow focus of the lens; he gazed at those who paused in sharp definition, and saw that, although he had at first seen no

visible means of propulsion, each creature bore about its head a halo of threadlike, flickering cilia that lashed the water and drew it forward, for all the world like an airplane propeller or a rapidly turning wheel.

"I know what they are!" exclaimed Henry Chatham, turning to his son with an almost boyish excitement. "They're rotifers! That means 'wheel-bearers,' and they were called that because to the first scientists who saw them it looked like they swam with wheels."

Harry had got down the book and was leafing through the pages. He looked up seriously. "Here they are," he said. "Here's a picture that looks almost like the ones in our pond water."

"Let's see," said his father. They looked at the pictures and descriptions of the Rotifera; there was a good deal of concrete information on the habits and physiology of these odd and complex little animals. It said that they were much more highly organized than Protozoa, having a discernible heart, brain, digestive system, and nervous system, and that their reproduction was by means of two sexes like that of the higher orders. Beyond that, they were a mystery; their relationship to other life forms remained shrouded in doubt.

"You've got something interesting here," said Henry Chatham with satisfaction. "Maybe you'll find out something about them that nobody knows yet."

He was pleased when Harry spent all the rest of that Sunday afternoon peering into the microscope, watching the rotifers, and even more pleased when the boy found a pencil and paper and tried, in an amateurish way, to draw and describe what he saw in the green water garden.

Beyond a doubt, Henry thought, here was a hobby that Harry loved.

Mrs. Chatham was not so pleased. When her husband laid down his evening paper and went into the kitchen for a drink of water, she cornered him and hissed at him: "I told you you had no business buying Harry a thing like that! If he keeps on at this rate, he'll wear his eyes out in no time."

Henry Chatham set down his water glass and looked straight at his wife. "Sally, Harry's eyes are young and he's using them to learn with. You've never been much worried over me, using my eyes up eight hours a day, five days a week, over a blind-alley bookkeeping job."

He left her angrily silent and went back to his paper.

Once the boy glanced up from his periodic drawing and asked with the air of one who proposes a pondered question: “Dad, if you look through a microscope the wrong way is it a telescope?”

Mr. Chatham lowered his paper and bit his underlip. “I don’t think so—no, I don’t know. When you look through a microscope, it make things seem closer—one way, that is; if you looked the other way, it would probably make them seem farther off. What did you want to know for?”

“Oh—nothing.” Harry turned back to his work. As if in afterthought, he explained, “I was wondering if the rotifers could see me when I’m looking at them.”

In the following days his interest became more and more intense. He spent long hours, almost without moving, watching the rotifers. For the little animals had become the sole object which he desired to study under the microscope, and even his father found it difficult to understand such an enthusiasm.

During the long hours at the office to which he commuted, Henry Chatham often found the vision of his son, absorbed with the invisible world that the microscope had opened to him, coming between him and the columns in the ledgers. And sometimes, too, he envisioned the dim green water garden where the little things swam to and fro, and a strangeness filled his thoughts.

On Wednesday evening, he glanced at the fishbowl and noticed that the whirligig beetle was missing. Casually, he asked his son about it.

“I had to get rid of him,” said the boy with a trace of uneasiness in his manner. “I took him out and squashed him.”

“Why did you have to do that?”

“He was eating the rotifers and their eggs,” said Harry, with what seemed to be a touch of remembered anger at the beetle.

“How did you find out he was eating them?” inquired Mr. Chatham, feeling a warmth of pride at the thought that Harry had discovered such a scientific fact for himself.

The boy hesitated oddly. “I—I looked it up in the books.”

His father masked his faint disappointment. “That’s fine,” he said. “I guess you find out more about them all the time.”

“Uh-huh,” admitted Harry, turning back to his table.

There was undoubtedly something a little strange about Harry’s manner; and now Mr. Chatham realized that it had been two days

since Harry had asked him to “Quick, take a look!” at the newest wonder he had discovered. With this thought teasing at his mind, the father walked casually over to the table where his son sat hunched and, looking down at the litter of slides and papers—some of which were covered with figures and scribblings of which he could make nothing. He said diffidently, “How about a look?”

Harry glanced up as if startled. He was silent a moment; then he slid reluctantly from his chair and said, “All right.”

Mr. Chatham sat down and bent over the microscope. Puzzled and a little hurt, he twirled the focusing vernier and peered into the eyepiece, looking down into the green water world of the rotifers.

There was a swarm of them under the lens, and they swam lazily to and fro, their cilia beating like miniature propellers. Their dark eyes stared, wet and glistening; they drifted in the motionless water, and clung with suckerlike pseudo-feet to the tangled plants.

Then, as he almost looked away, one of them detached itself from the group and swam upward, toward him, growing larger and blurring as it rose out of the focus of the microscope. The last thing that remained defined, before it became a shapeless gray blob and vanished, was the dark blotches of the great cold eyes, seeming to stare full at him —cold, motionless, but alive.

Henry Chatham drew suddenly back from the eyepiece, with an involuntary shudder that he could not explain to himself. He said haltingly, “They look interesting.”

“Sure, Dad,” said Harry. He moved to occupy the chair again, and his dark young head bowed once more over the microscope. His father walked back across the room and sank gratefully into his armchair—after all, it had been a hard day at the office. He watched Harry work the focusing screws, then take his pencil and begin to write quickly and impatiently.

It was with a guilty feeling of prying that, after Harry had been sent reluctantly to bed, Henry Chatham took a tentative look at those papers which lay on his son’s worktable. He frowned uncomprehendingly at the things that were written there; it was neither mathematics nor language, but many of the scribblings were jumbles of letters and figures. It looked like code, and he remembered that less than a year ago, Harry had been passionately interested in cryptography. But what did cryptography have to do with microscopy, or codes with—rotifers?

Nowhere did there seem to be a key, but there were occasional

words and phrases jotted into the margins of some of the sheets. Mr. Chatham read these, and learned nothing. “Can’t dry up, but they can,” said one. “Beds of germs,” said another. And in the corner of one sheet, “1—Yes. 2— No.” The only thing that looked like a translation was the note: “rty34pr is the pond.”

Mr. Chatham shook is head bewilderedly. Why should Harry want to keep notes on his scientific hobby in code? He went to bed still puzzling, but it did not keep him from sleeping, for he was tired.

Then, only the next evening, his wife maneuvered to get him alone with her and burst out passionately:

“Henry, I told you that microscope was going to ruin Harry’s eyesight! I was watching him today when he didn’t know I was watching him, and I saw him winking and blinking right while he kept on looking into the thing. I was minded to stop him then and there, but I want you to assert your authority with him and tell him he can't go on."

“All right, Sally,” said Mr. Chatham wearily. ‘T11 see if I can't persuade him to be a little more moderate."

He went slowly into the living room. At the moment, Harry was not using the microscope: instead, he seemed to be studying one of his cryptic pages of notes. As his father entered, he looked up sharply and swiftly laid the sheet down—face down.

Perhaps it wasn't all Sally's imagination: the boy did look nervous, and there was a drawn, white look to his thin young face. His father said gently. "Harry. Mother tells me she saw you blinking, as if your eyes were tired, when you were looking into the microscope today. You know if you look too much, it can be a strain on your sight."

Harry nodded quickly, too quickly, perhaps. "Yes. Dad,” he said. "I read that in the book. It says there that if you close the eye you're looking with for a little while, it rests you and your eyes don't get tired. So I was practicing that this afternoon. Mother must have been watching me then, and got the wrong idea."

"Oh." said Henry Chatham. "Well, it’s good that you're trying to be careful. But you've got your mother worried, and that's not so good. I wish, myself, that you wouldn't spend all your time with the microscope. Don't you ever play baseball with the fellows any more?"

"I haven't got time." said the boy. with a curious stubborn twist

to his mouth. "I can't right now. Dad.”

“Your rotifers won't die if you leave them alone for a while. And if they do. there'll always be a new crop.”

"But I'd lose track of them." said Harry strangely. "Their lives are so short—they live so awfully fast. You don't know how fast they live."

"I've seen them." answered his father. "I guess they're fast, all right.” He did not know quite what to make of it all, so he settled himself in his chair with his paper.

But that night, after Harry had gone to bed, he stirred himself to take down the book that dealt with life in pond-water. There was a memory pricking at his mind; the memory of the water beetle, which Harry had killed because, he said, he was eating the rotifers and their eggs.

Mr. Chatham turned through the book; he read, with aching eyes, all that it said about rotifers. He searched for information on the beetle, and found there was a whole family of whirligig beetles. There was some material here on the characteristics and habits of the Gyrinidae, but nowhere did it mention the devouring of rotifers or their eggs among their customs.

Harry must have lied. But why in God’s name should he say he’d looked a thing up in the book when he must have found it out for himself, the hard way?

Henry Chatham slept badly that night and dreamed distorted dreams. But when the alarm clock shrilled, jarring him awake, the dream in which he had been immersed skittered away to the back of his mind.

During the morning his work went slowly, for he kept pausing, sometimes in the midst of totaling a column of figures, to grasp at some mocking half-memory of that dream. At last, elbows on his desk, staring unseeingly at the clock on the wall, his mind went back to Harry, dark head bowed motionless over the barrel of his microscope, looking, always looking into the pale green water gardens and the unseen lives of the beings that . . .

All at once it came to him, the dream he had dreamed. *He* had been bending over the microscope, *he* had been looking into the unseen world, and the horror of what he had seen gripped him now and brought out the chill sweat on his body.

For he had seen his son there in the clouded water, among the twisted grassy plants, his face turned upward and eyes wide in the

agonized appeal of the drowning; around him had been a swarm of the weird creatures, and they had been dragging him down, blurring out of focus, and their great dark eyes glistening wetly, coldly. . . .

He was sitting rigid at his desk, his work forgotten; all at once he saw the clock and noticed with a start that it was already eleven **a.m.** A fear he could not define seized him, and his hand reached spasmodically for the telephone on his desk.

But before he touched it, it began ringing.

After a moment's paralysis, he picked up the receiver. It was his wife's voice that came shrilly over the wires.

"Henry, you've got to come home right now. Harry's sick. He's got a high fever, and he's been asking for you."

He moistened his lips and said, "I'll be right home. I'll take a taxi."

"Hurry!" she exclaimed. "He's been saying queer things. I think he's delirious." She paused, and added, "And it's all the fault of that microscope you bought him!"

"I'll be right home," he repeated dully.

His wife was not at the door to meet him. He paused in the living room and glanced toward the table that bore the microscope; the black, gleaming thing still stood there, but he did not see any of the slides, and the papers were piled neatly together to one side. His eyes fell on the fishbowl; it was empty, clean and shining. He knew Harry hadn't done those things; that was Sally's neatness.

Abruptly, instead of going straight up the stairs, he moved to the table and looked down at the pile of papers. The one on top was almost blank; on it was written several times: rty34pr . . . rty34pr . . . His memory for figure combinations served him; he remembered what had been written on another page: "rty34pr is the pond."

A step on the stairs jerked him around.

It was his wife, of course. She said in a voice sharp-edged with apprehension: "What are you doing down here? Harry wants you. The doctor hasn't come; I phoned him just before I called you, but he hasn't come."

He did not answer. Instead he gestured at the pile of papers, the empty fishbowl, an imperative question in his face.

"I threw that dirty water back in the pond. It's probably what he caught something from. And he was breaking himself down, humping over that thing. It's your fault, for getting it. Are you

coming?"

"I'm coming," he said heavily, and followed her upstairs.

Harry lay back in his bed. His head was propped against a single pillow, and his eyes were half-closed, the lids swollen looking, his face hotly flushed. He was breathing slowly as if asleep.

But as his father entered the room, he opened his eyes as if with an effort, fixed them on him, said, "Dad . . . I've got to tell you."

Mr. Chatham took the chair by the bedside, quietly. He asked, "About what, Harry?"

The boy's eyes shifted to his mother, at the foot of his bed. "I don't want to talk to her. *She* thinks it's just fever. But you'll understand."

Henry Chatham lifted his gaze to meet his wife's. "Maybe you'd better go downstairs and wait for the doctor, Sally."

She looked hard at him, then turned abruptly and closed the door softly behind her.

"Now what did you want to tell me, Harry?"

"About *them* . . . the rotifers," the boy said. His eyes had drifted half-shut again, but his voice was clear. "They did it to me. . . ."

"Did *what?"*

"I don't know. . . . They used one of their cultures. They've got all kinds: beds of germs, under the leaves in the water. They've been growing new kinds, that will be worse than anything that ever was before. . . . They live so fast, they work so fast.

"It was only a little while, before I found out they knew about me. I could see them through my microscope, but they could see me, too. . . . They know about us, now, and they hate us. They never knew before—that there was anybody but them. ... So they want to kill us all."

"But why should they want to do that?" asked the father, gently.

"They don't like knowing that they aren't the only ones on Earth that can think. I expect people would be the same way."

"But they're such little things, Harry. They can't hurt us at all."

The boy's eyes opened wide, shadowed with terror and fever. "I told you, Dad— They're growing germs, millions and billions of them, new ones. . . . And they kept telling me to take them back to the pond, so they could tell all the rest, and they could all start getting ready—for war."

He remembered the shapes that swam and crept in the green water gardens, with whirling cilia and great, cold, glistening eyes. And he remembered the clean, empty fish bowl in the window downstairs.

"Don't let them, Dad," said Harry convulsively. "You've got to kill them all. The ones here and the ones in the pond. You've got to kill them good—because they don't mind being killed, and they lay lots of eggs, and their eggs can stand almost anything, even drying up. And the eggs remember what the old ones knew."

"Don't worry," said Henry Chatham quickly. He grasped his son's hand, a hot, limp hand that had slipped from under the coverlet. "We'll stop them. We'll drain the pond."

"I ought to have told you before, Dad—but first I was afraid you'd laugh, and then—I was just . . . afraid. . . ."

His voice drifted away. And his father, looking down at the flushed face, saw that he seemed asleep. Well, that was better than the sick delirium—saying such strange, wild things—

Downstairs the doctor was saying harshly, "All right. But let's have a look at the patient."

Henry Chatham came quietly downstairs; he greeted the doctor briefly, and did not follow him to Harry's bedroom.

When he was left alone in the room, he went to the window and stood looking down at the microscope. He could not rid his head of strangeness: A window between two worlds, our world and that of the infinitely small, a window that looks both ways.

After a time, he went through the kitchen and let himself out the back door, into the noonday sunlight.

He followed the garden path until he came to the edge of the little pond. It lay there quiet in the sunlight, green-scummed and walled with stiff rank grass, a lone dragonfly swooping and wheeling above it. The image of all the stagnant waters, the fertile breeding-places of strange life, with which it was joined in the end by the tortuous hidden channels, the oozing pores of the Earth.

And it seemed to him then that he glimpsed something, a hitherto unseen miasma, rising above the pool and darkening the sunlight ever so little. A dream, a shadow—the shadow of the alien dream of things hidden in smallness, the dark dream of the rotifers.

Henry Chatham was suddenly afraid. He turned and walked slowly, wearily, up the path toward the house.

WHEN WE WENT TO SEE THE END OF THE WORLD

Robert Silverberg

This book opened with a story about the end of the world; it seems fitting to close with one also. Although what we are offered here is not the end of the world, exactly, but several, and no telling which is the real one— except that worlds sometimes end while no one is paying attention, and that may be the strangest aspect of all, here on Earth in the twentieth century.

Nick and Jane were glad that they had gone to see the end of the world, because it gave them something special to talk about at Mike and Ruby's party. One always likes to come to a party armed with a little conversation. Mike and Ruby give marvelous parties. Their home is superb, one of the finest in the neighborhood. It is truly a home for all seasons, all moods. Their very special corner-of-the-world. With more space indoors and out . . . more wide-open freedom. The living room with its exposed ceiling beams is a natural focal point for entertaining. Custom-finished, with a conversation pit and fireplace. There's also a family room with beamed ceiling and wood paneling . . . plus a study. And a magnificent master suite with 12-foot dressing room and private bath. Solidly impressive exterior design. Sheltered courtyard. Beautifully wooded half-acre grounds. Their parties are highlights of any month. Nick and Jane waited until they thought enough people had arrived. Then Jane nudged Nick and Nick said gaily, "You know what we did last week? Hey, we went to see the end of the world!"

"The end of the world?" Henry asked.

"You went to see it?" said Henry's wife Cynthia.

"How did you manage that?" Paula wanted to know.

"It's been available since March," Stan told her. "I think a division of American Express runs it."

Nick was put out to discover that Stan already knew. Quickly, before Stan could say anything more, Nick said, "Yes, it's just started. Our travel agent found out for us. What they do is they put

you in this machine, it looks like a tiny teeny submarine, you know, with dials and levers up front behind a plastic wall to keep you from touching anything, and they send you into the future. You can charge it with any of the regular credit cards."

"It must be very expensive," Marcia said.

"They're bringing the costs down rapidly," Jane said. "Last year only millionaires could afford it. Really, haven't you heard about it before?"

"What did you see?" Henry asked.

"For a while, just grayness outside the porthole," said Nick. "And a kind of flickering effect." Everybody was looking at him. He enjoyed the attention. Jane wore a rapt, loving expression. "Then the haze cleared and a voice said over a loudspeaker that we had now reached the very end of time, when life had become impossible on Earth. Of course we were sealed into the submarine thing. Only looking out. On this beach, this empty beach. The water a funny gray color with a pink sheen. And then the sun came up. It was red like it sometimes is at sunrise, only it stayed red as it got to the middle of the sky, and it looked lumpy and sagging at the edges. Like a few of us, hah hah. Lumpy and sagging at the edges. A cold wind blowing across the beach."

"If you were sealed in the submarine, how did you know there was a cold wind?" Cynthia asked.

Jane glared at her. Nick said, "We could see the sand blowing around. And it *looked* cold. The gray ocean. Like in winter."

"Tell them about the crab," said Jane.

"Yes, and the crab. The last life-form on Earth. It wasn't really a crab, of course, it was something about two feet wide and a foot high, with thick shiny green armor and maybe a dozen legs and some curving horns coming up, and it moved slowly from right to left in front of us. It took all day to cross the beach. And toward nightfall it died. Its horns went limp and it stopped moving. The tide came in and carried it away. The sun went down. There wasn't any moon. The stars didn't seem to be in the right places. The loudspeaker told us we had just seen the death of Earth's last living thing."

"How *eerier* cried Paula.

"Were you gone very long?" Ruby asked.

"Three hours," Jane said. "You can spend weeks or days at the end of the world, if you want to pay extra, but they always bring

you back to a point three hours after you went. To hold down the babysitter expenses."

Mike offered Nick some pot. "That's really something," he said. "To have gone to the end of the world. Hey, Ruby, maybe we'll talk to the travel agent about it."

Nick took a deep drag and passed the joint to Jane. He felt pleased with himself about the way he had told the story. They had all been very impressed. That swollen red sun, that scuttling crab. The trip had cost more than a month in Japan, but it had been a good investment. He and Jane were the first in the neighborhood who had gone. That was important. Paula was staring at him in awe. Nick knew that she regarded him in a completely different light now. Possibly she would meet him at a motel on Tuesday at lunchtime. Last month she had turned him down but now he had an extra attractiveness for her. Nick winked at her. Cynthia was holding hands with Stan. Henry and Mike both were crouched at Jane's feet. Mike and Ruby's twelve-year-old son came into the room and stood at the edge of the conversation pit. He said, "There was a bulletin on the news.

Mutated amoebas escaped from the government research station and got into Lake Michigan. They're carrying a tissue-dissolving virus and everybody in seven states is supposed to boil his water until further notice." Mike scowled at the boy and said, "It's after your bedtime, Timmy." The boy went out. The doorbell rang. Ruby answered it and returned with Eddie and Fran.

Paula said, "Nick and Jane went to see the end of the world. They've just been telling us all about it."

"Gee," said Eddie, "we did that too, on Wednesday night."

Nick was crestfallen. Jane bit her lip and asked Cynthia quietly why Fran always wore such flashy dresses. Ruby said, "You saw the whole works, eh? The crab and everything?"

"The crab?" Eddie said. "What crab? We didn't see the crab."

"It must have died the time before," Paula said. "When Nick and Jane were there."

Mike said, "A fresh shipment of Cuernavaca Lightning is in. Here, have a toke."

"How long ago did you do it?" Eddie said to Nick. "Sunday afternoon. I guess we were about the first."

"Great trip, isn't it?" Eddie said. "A little somber, though. When the last hill crumbles into the sea."

"That's not what we saw," said Jane. "And you didn't see the crab? Maybe we were on different trips."

Mike said, "What was it like for you, Eddie?"

Eddie put his arms around Cynthia from behind. He said, "They put us into this little capsule, with a porthole, you know, and a lot of instruments and—"

"We heard that part," said Paula. "What did you *see?"* "The end of the world," Eddie said. "When water covers everything. The sun and the moon were in the sky at the same time—"

"We didn't see the moon at all," Jane remarked. "It just wasn't there."

"It was on one side and the sun was on the other," Eddie went on. "The moon was closer than it should have been. And a funny color, almost like bronze. And the ocean creeping up. We went halfway around the world and all we saw was ocean. Except in one place, there was this chunk of land sticking up, this hill, and the guide told us it was the top of Mount Everest." He waved to Fran. "That was groovy, huh, floating in our tin boat next to the top of Mount Everest. Maybe ten feet of it sticking up. And the water rising all the time. Up, up, up. Up and over the top. Glub. No land left. I have to admit it was a little disappointing, except of course the *idea* of the thing. That human ingenuity can design a machine that can send people billions of years forward in time and bring them back, wow! But there was just this ocean."

"How strange," said Jane. "We saw an ocean too, but there was a beach, a kind of nasty beach, and the crab-thing walking along it, and the sun—-it was all red, was the sun red when you saw it?"

"A kind of pale green," Fran said.

"Are you people talking about the end of the world?" Tom asked. He and Harriet were standing by the door taking off their coats. Mike's son must have let them in. Tom gave his coat to Ruby and said, "Man, what a spectacle!"

"So you did it too?" Jane asked, a little hollowly.

"Two weeks ago," said Tom. "The travel agent called and said, Guess what we're offering now, the end of the goddamned world! With all the extras it didn't really cost so much. So we went right down there to the office, Saturday, I think—was it a Friday?—the day of the big riot, anyway, when they burned St. Louis—"

"That was a Saturday," Cynthia said. "I remember I was coming back from the shopping center when the radio said they were using

nuclears—”

“Saturday, yes,” Tom said. “And we told them we were ready to go, and off they sent us.”

“Did you see a beach with crabs,” Stan demanded, “or was it a world full of water?”

“Neither one. It was like a big ice age. Glaciers covered everything. No oceans showing, no mountains. We flew clear around the world and it was all a huge snowball. They had floodlights on the vehicle because the sun had gone out.” ~

“I was sure I could see the sun still hanging up there,” Harriet put in. “Like a ball of cinders in the sky. But the guide said no, nobody could see it.”

“How come everybody gets to visit a different kind of end of the world?” Henry asked. “You’d think there’d be only one kind of end of the world. I mean, it ends, and this is how it ends, and there can’t be more than one way.”

“Could it be a fake?” Stan asked. Everybody turned around and looked at him. Nick’s face got very red. Fran looked so mean that Eddie let go of Cynthia and started to rub Fran’s shoulders. Stan shrugged. “I’m not suggesting it is,” he said defensively. “I was just wondering.”

“Seemed pretty real to me,” said Tom. “The sun burned out. A big ball of ice. The atmosphere, you know, frozen. Then end of the goddamned world.”

The telephone rang. Ruby went to answer it. Nick asked Paula about lunch on Tuesday. She said yes. “Let’s meet at the motel,” he said, and she grinned. Eddie was making out with Cynthia again. Henry looked very stoned and was having trouble staying awake. Phil and Isabel arrived. They heard Tom and Fran talking about their trips to the end of the world and Isabel said she and Phil had gone only the day before yesterday. “Goddamn,” Tom said, “everybody’s doing it! What was your trip like?”

Ruby came back into the room. “That was my sister calling from Fresno to say she’s safe. Fresno wasn’t hit by the earthquake at all.”

“Earthquake?” Paula said.

“In California,” Mike told her. “This afternoon. You didn’t know? Wiped out most of Los Angeles and ran right up the coast practically to Monterrey. They think it was on account of the underground bomb test in the Mohave Desert.”

"Calfornia's always having such awful disasters," Marcia said.

"Good thing those amoebas got loose back east," said Nick. "Imagine how complicated it would be if they had them in L.A. now too."

"They will," Tom said. "Two to one they reproduce by airborne spores."

"Like the typhoid germs last November," Jane said.

"That was typhus," Nick corrected.

"Anyway," Phil said, "I was telling Tom and Fran about what we saw at the end of the world. It was the sun going nova. They showed it very cleverly, too. I mean, you can't actually sit around and *experience* it, on account of the heat and the hard radiation and all. But they give it to you in a peripheral way, very elegant in the McLuhanesque sense of the word. First they take you to a point about two hours before the blowup, right? It's I don't know how many jillion years from now, but a long way, anyhow, because the trees are all different, they've got blue scales and ropy branches, and the animals are like things with one leg that jump on pogo sticks—"

"Oh, I don't *believe* that," Cynthia drawled.

Phil ignored her gracefully. "And we didn't see any sign of human beings, not a house, not a telephone pole, nothing, so I suppose we must have been extinct a long time before. Anyway, they let us look at that for a while. Not getting out of our time machine, naturally, because they said the atmosphere was wrong. Gradually the sun started to puff up. We were nervous—weren't we, Iz?—I mean, suppose they miscalculated things? This whole trip is a very new concept and things might go wrong. The sun was getting bigger and bigger, and then this thing like an arm seemed to pop out of its left side, a big fiery arm reaching out across space, getting closer and closer. We saw it through smoked glass, like you do an eclipse. They gave us about two minutes of the explosion, and we could feel it getting hot already. Then we jumped a couple of years forward in time. The sun was back to its regular shape, only it was smaller, sort of like a little white sun instead of a big yellow one. And on Earth everything was ashes."

"Ashes," Isabel said, with emphasis.

"It looked like Detroit after the union nuked Ford," Phil said. "Only much, much worse. Whole mountains were melted. The oceans were dried up. Everything was ashes." He shuddered and

took a joint from Mike. “Isabel was crying.”

“The things with one leg,” Isabel said. “I mean, they must have all been wiped *out*.” She began to sob. Stan comforted her. “I wonder why it’s a different way for everyone who goes,” he said. “Freezing. Or the oceans. Or the sun blowing up. Or the thing Nick and Jane saw.”

“I’m convinced that each of us had a genuine experience in the far future,” said Nick. He felt he had to regain control of the group somehow. It had been so good when he was telling his story, before those others had come. “That is to say, the world suffers a variety of natural calamities, it doesn’t just have *one* end of the world, and they keep mixing things up and sending people to different catastrophes. But never for a moment did I doubt that I was seeing an authentic event.”

“We have to do it,” Ruby said to Mike. “It’s only three hours. What about calling them first thing Monday and making an appointment for Thursday night?”

“Monday’s the President’s funeral,” Tom pointed out. “The travel agency will be closed.”

“Have they caught the assassin yet?” Fran asked.

“They didn’t mention it on the four o’clock news,” said Stan. “I guess he’ll get away like the last one.”

“Beats me why anybody wants to be President,” Phil said. Mike put on some music. Nick danced with Paula. Eddie danced with Cynthia. Henry was asleep. Dave, Paula’s husband, was on crutches because of his mugging, and he asked Isabel to sit and talk with him. Tom danced with Harriet even though he was married to her. She hadn’t been out of the hospital more than a few months since the transplant and he treated her extremely tenderly. Mike danced with Fran. Phil danced with Jane. Stan danced with Marcia. Ruby cut in on Eddie and Cynthia. Afterward Tom danced with Jane and Phil danced with Paula. Mike and Ruby’s little girl woke up and came out to say hello. Mike sent her back to bed. Far away there was the sound of an explosion. Nick danced with Paula again, but he didn’t want her to get bored with him before Tuesday, so he excused himself and went to talk with Dave. Dave handled most of Nick’s investments. Ruby said to Mike, “The day after the funeral, will you call the travel agent?” Mike said he would, but Tom said somebody would probably shoot the new President too and there’d be another funeral. These funerals were demolishing the gross

national product, Stan observed, on account of how everything had to close all the time. Nick saw Cynthia wake Henry up and ask him sharply if he would take her on the end-of-the-world trip. Henry looked embarrassed. His factory had been blown up at Christmas in a peace demonstration and everybody knew he was in bad shape financially. "You can *charge* it," Cynthia said, her fierce voice carrying above the chitchat. "And it's so *beautiful*, Henry. The ice. Or the sun exploding. I want to go."

"Lou and Janet were going to be here tonight too," Ruby said to Paula. "But their younger boy came back from Texas with that new kind of cholera and they had to cancel."

Phil said, "I understand that one couple saw the moon come apart. It got too close to the Earth and split into chunks and the chunks fell like meteors. Smashing everything up, you know. One big piece nearly hit their time machine."

"I wouldn't have liked that at all," Marcia said.

"Our trip was very lovely," said Jane. "No violent things at all. Just the big red sun and the tide and that crab creeping along the beach. We were both deeply moved."

"It's amazing what science can accomplish nowadays," Fran said.

Mike and Ruby agreed they would try to arrange a trip to the end of the world as soon as the funeral was over. Cynthia drank too much and got sick. Phil, Tom, and Dave discussed the stock market. Harriet told Nick about her operation. Isabel flirted with Mike, tugging her neckline lower. At midnight someone turned on the news. They had some shots of the earthquake and a warning about boiling your water if you lived in the affected states. The President's widow was shown visiting the last President's widow to get some pointers for the funeral. Then there was an interview with an executive of the time-trip company. "Business is phenomenal," he said. "Time-tripping will be the nation's number one growth industry next year." The reporter asked him if his company would soon be offering something beside the end-of-the-world trip. "Later on, we hope to," the executive said. "We plan to apply for Congressional approval soon. But meanwhile the demand for our present offering is running very high. You can't imagine.

Of course, you have to expect apocalyptic stuff to attain immense popularity in times like these." The reporter said, "What do you mean, times like these?" but as the time-trip man started to

reply, he was interrupted by the commercial. Mike shut off the set. Nick discovered that he was extremely depressed. He decided that it was because so many of his friends had made the journey, and he had thought he and Jane were the only ones who had. He found himself standing next to Marcia and tried to describe the way the crab had moved, but Marcia only shrugged. No one was talking about the time-trips now. The party had moved beyond that point. Nick and Jane left quite early and went right to sleep, without making love. The next morning the Sunday paper wasn't delivered because of the Bridge Authority strike, and the radio said that the mutant amoebas were proving harder to eradicate than originally anticipated. They were spreading into Lake Superior and everyone in the region would have to boil all drinking water. Nick and Jane discussed where they would go for their next vacation. "What about going to see the end of the world all over again?" Jane suggested, and Nick laughed quite a good deal.